

Work Order ID 112394

Tuesday, March 04, 2014 2:38:13 PM

112394

Page 1

Item ID: 647.9315 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Receptacle Bracket
 Start Date: 1/30/2014 Start Qty: 10.00 ***10*** Cust Item ID:
 Required Date: 1/30/2014 Req'd Qty: 10.00 ***10*** Customer:
 Reference:

Approvals: Process Plan: CL Date: 14/03/04 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
647.9300	

110 0.00

110

Outsource5

Outsource process - Machining

Memo

ISSUE P/O: 23220
 POSSIBLE SUPPLIER: ETM INDUSTRIES

Certificate of conformaty required

115 Receive & Inspect for Damage & Mat'l Certs 0.00

115

Packaging

Packaging

Memo

0.00

117 QC6- Inspect dimensions to drawing 0.00

117

QC

Quality Control

Memo

0.00

5/14/02/22

Part has been received
 by supplier

CL 14/03/04 10
14/12/15 (10)
 → 10x SP14-8-20.

→ 70 →
 NCR14-4045



Supplier Non-Conformance Report

Reviewed
DQA:
Date:

Printed on: Thursday, July 17, 2014

Details			
Raised Date 7/17/2014	Status Open	Owner Gregoire, Michael	Number NCR14-4045
Target Date 8/1/2014	Standard		Severity MAJOR
Process Quality Inspection		Audit	
Raised By Person Downing, Eric M		Raised Against (Department or Supplier) ETM Industries	Fault Category General\Finish
Details found at inspection of 647.9315 B112394 on PO# 23220 that in all 10 parts there is chatter marks in all the corners. Please see the attached pictures			
Keywords		Product 647.9315	
Document		Root Cause	
Closed By	Closed Date	Resolution	

Corrective Action			
Target Date 8/1/2014	Owner Gregoire, Michael	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	
2	Downing, Eric M	7/25/2014	
get approval from Pablo from ocean side to either accept as is or scrap parts		Parts are acceptable but are to be rejected by QC + Production 14/07/21	
3	Gregoire, Michael	8/1/2014	
contact supplier ETM Industries and have them supply a root cause and corrective action		Root	

Verification & Review			
Target Date 8/1/2014	Owner Smith, Patrick	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	

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112394

Page 2

Item ID: 647.9315

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Receptacle Bracket

Stop ***NS2***

Start Date: 1/30/2014 Start Qty: 10.00

10

Cust Item ID:

Required Date: 1/30/2014 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
120									
Outsource4	Memo	0.00							
Outsource process - Anodize	Issue P/O to ATG: _____								
	1- Black Anodize as per Dwg 647.9300								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Comformity is required								
130	Receive & Inspect for Damage & Mat'l Certs	0.00							
130									
Packaging	Memo	0.00							
Packaging									
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									

done @ ETh

cc 1137

11/7/11/00 (10)

n/a

Work Order ID 112394***112394***

Page 3

Item ID: 647.9315

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Receptacle Bracket

Start Date: 1/30/2014 Start Qty: 10.00

10

Cust Item ID:

Required Date: 1/30/2014 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Identify as per dwg & Stock Location: _____	0.00							
180									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

MLS 14-08-26

Picklist Print

Tuesday, March 04, 2014 2:38:13 PM

Page 1

Work Order ID: 112394

112394

Parent Item: 647.9315

647 9315

Parent Item Name: Receptacle Bracket

Start Date: 1/30/2014

Required Date: 1/30/2014

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A NEW ISSUE 12-11-19 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.9315P		Purchased		No			Each	0.0000		10			
647 9315P									**				
Receptacle Bracket													
M7075T6B3.000X7.500		Purchased		No			f	30.4500		6			

M7075T6B3.000X7.500

7075-T6 BAR 3.000' X 7.500" (order in billets)

material supplied by ETM.

Location

MAT001

124030

124412

Loc Qty

30.45

6.45

24

Loc Code

NA

44/2/15 (10)
10 X SP 14-8-20

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04249				SHEET 1 OF 1	
	DWG NO. 647.9300	REV: NC	PREPARED BY J. SOTO	DATE: 11/14/2013	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER		
TRANSACTION CODES (TC): A-ADD R-REVISE C-CREATE D-DELETE	REASON: REVISED NOTE 4					ECR: 13-037

SHEET 1, ZONE A1 IS:

112394
MCS
1401-31

NOTES: UNLESS OTHERWISE SPECIFIED

IS

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPR, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPR, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPR, LAST MODIFIED 09-26-11.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPR, LAST MODIFIED 11-16-12.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPR, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPR, LAST MODIFIED 06-22-10.

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

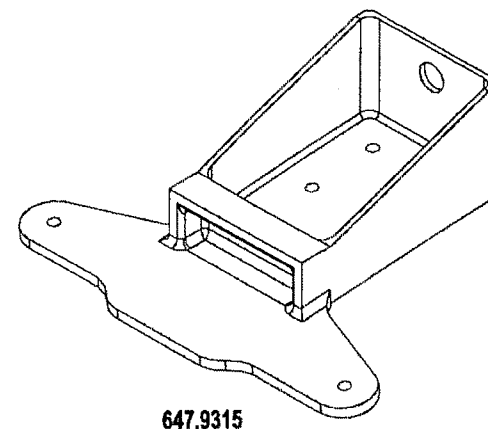
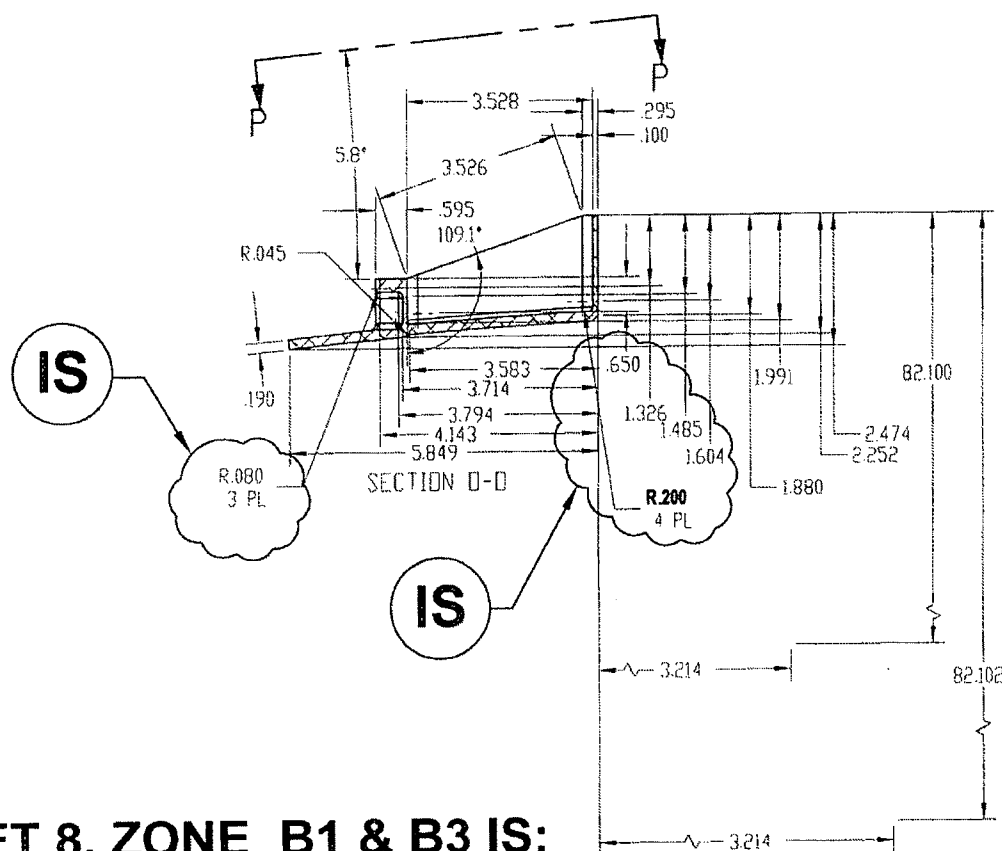
DER REVIEW REQUIRED

☐ YES ☒ NO

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03706				SHEET 1 OF 2	
	DWG NO. 647.9300	REV: N/C	PREPARED BY B. PETERS	DATE: 11/16/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	ECR: D-12-012	EFFECT NEXT ORDER	
REASON: REVISED RADII ON 647.9315.						

SHEET 1, ZONE B4, NOTE 10 IS:

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 11-16-12.



SHEET 8, ZONE B1 & B3 IS:

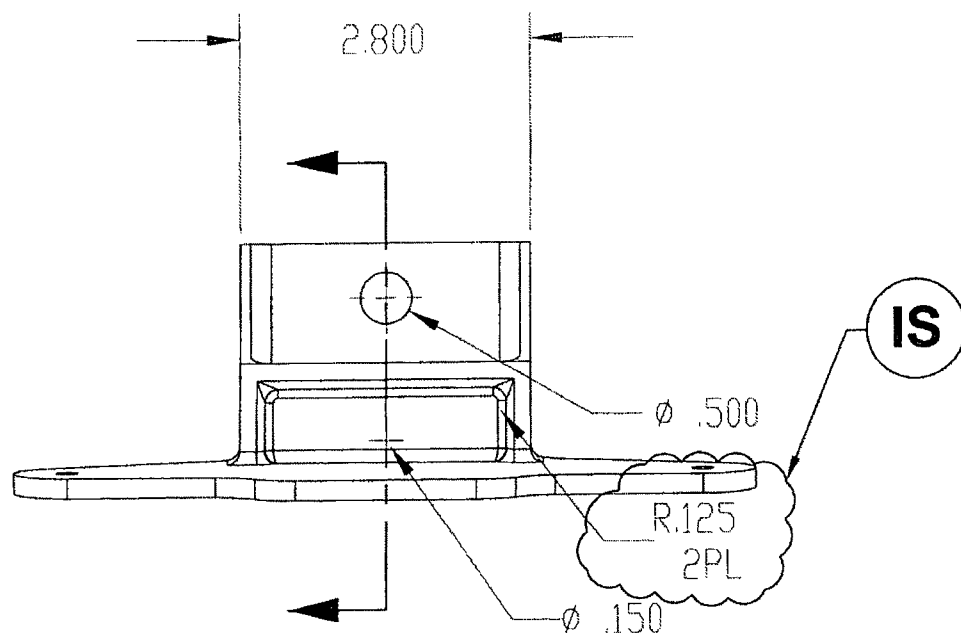
SHEET 8, ZONE A7 IS:

DOCUMENTS EFFECTED:

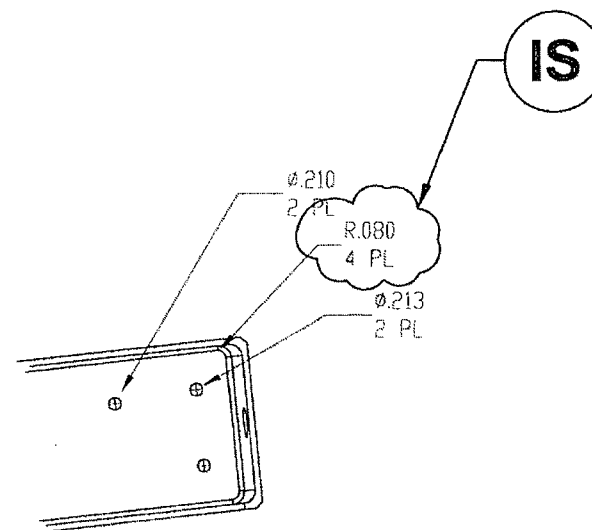
☐ RFMS ☐ MDL ☐ INSTALL INSTRUCC ☐ ICA ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☐ YES ☒ NO



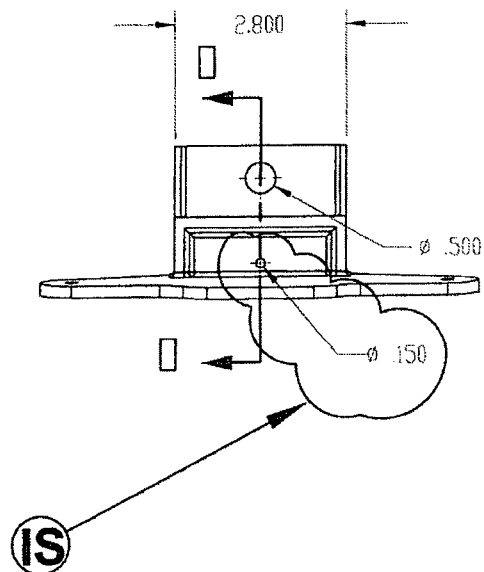
SHEET 8, ZONE B6 IS:



SECTION P-P

SHEET 8, ZONE B8 IS:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
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SHEET 8, ZONE B5:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASE (P1)		
N/C	INITIAL RELEASE	06-22-10	P. BRAVO

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120. LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

UNINCORPORATED ECN(S)

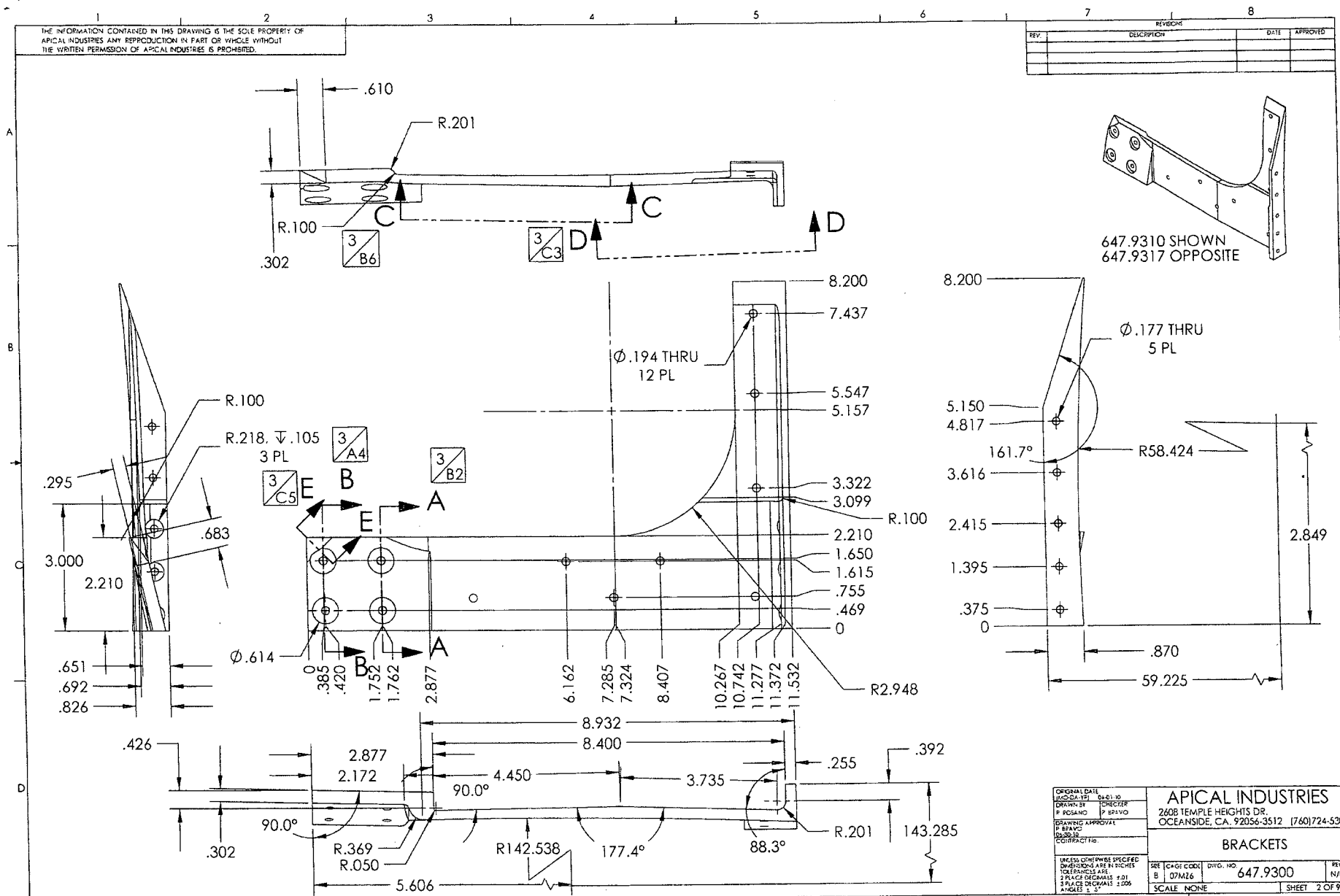
03209, 03706, 04249

	647.9317	RH BRACKET	△	△△
	647.9316	CROSSBAR BRACKET	△	△△
	647.9315	RECEPTACLE BRACKET	△	△△
	647.9314	RETAINER BRACKET	△	△△
	647.9313	BRACKET	△	△△
	647.9312	BRACKET	△	△△
	647.9311	SUPPORT BRACKET	△	△△
	647.9310	LH BRACKET	△	△△
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
PARTS LIST				
QTY	ORIGINAL DATE (M/D/Y)			
NEXT ASSY (S)	DRAWN BY: P. ROSARIO CHECKED BY: P. BRAVO			
647.8900	APPROVED BY: P. BRAVO DATE: 06-22-10			
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.03 ANGLES ±.5°			
SET		CAGE CODE	DWG. NO.	REV.
B		07M26	647.9300	N/C
SCALE: NONE				SHEET 1 OF 9

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92036-3512 (760)724-5300

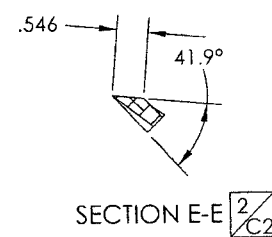
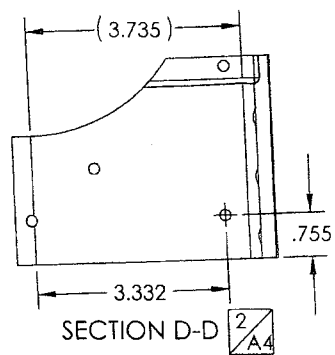
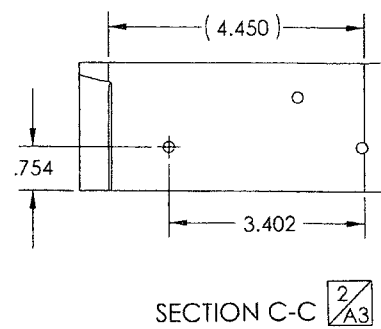
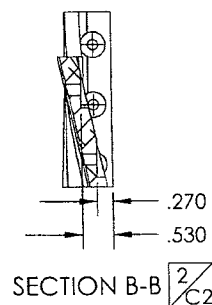
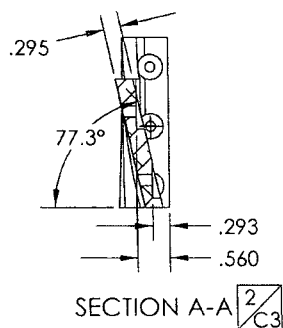
BRACKETS

7		8	
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



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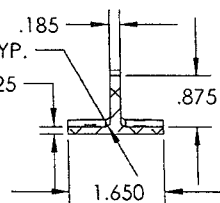
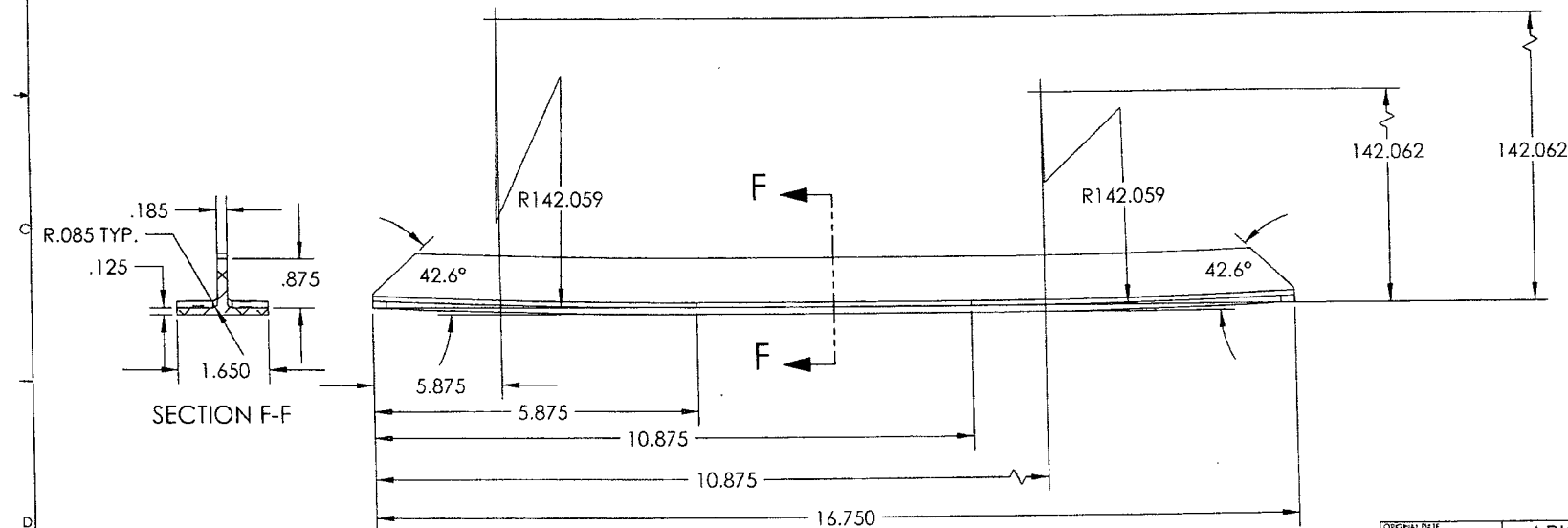
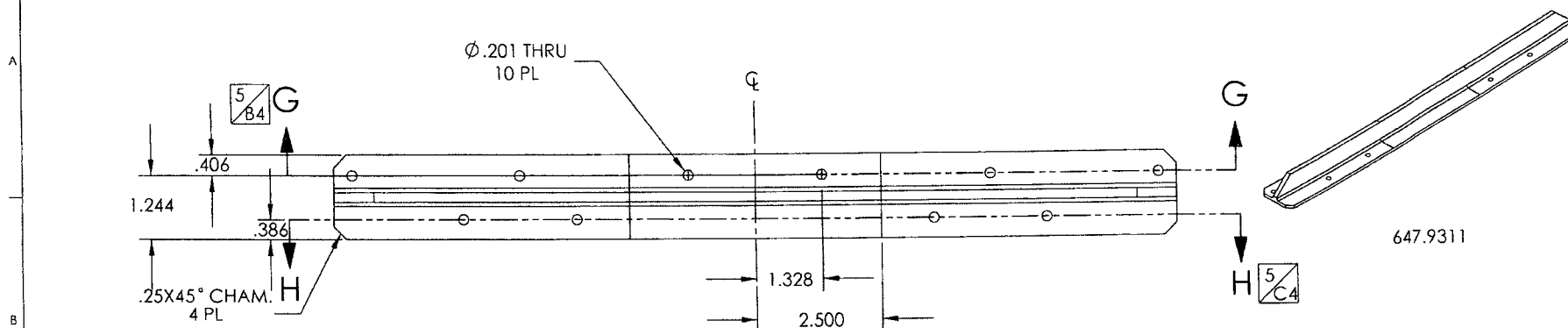
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



ORIGINAL DATE 1/10/01 06:01:10		APICAL INDUSTRIES	
DRAWN BY: J. HOSANO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: F. BRAVO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL		BRACKETS	
DATE: 06/30/01		SCALE: NONE	
CONTRACT NO.		SHEET 3 OF 9	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SHEET 3 OF 9	REV N/C

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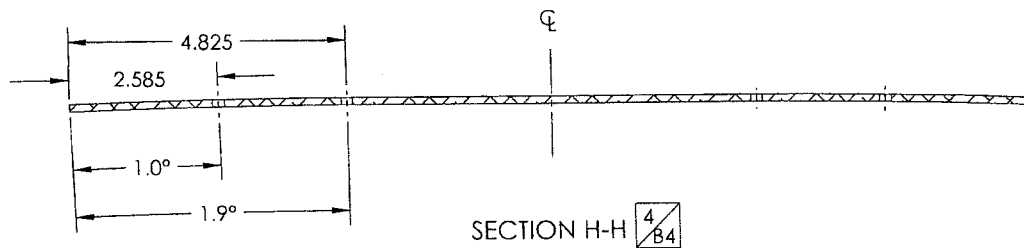
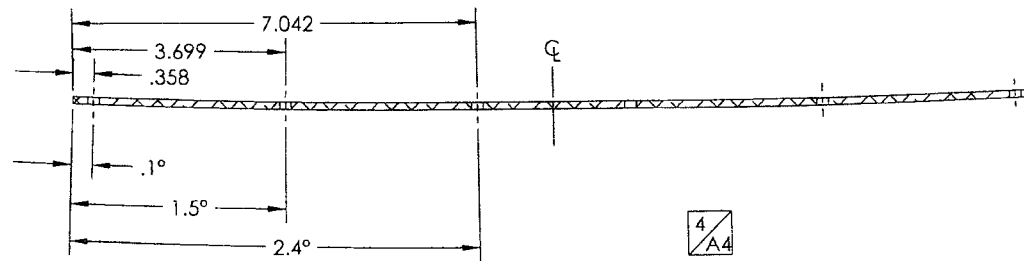
REV.	DESCRIPTION	DATE	APPROVED



ORIGINAL DATE 10-01-79	DATE 08-01-80	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY F. ROSARIO	CHECKED BY P. BRAYNO	BRACKETS	
DESIGNED BY F. ROSARIO	APPROVED BY 	SCALE NONE	REV. N/C
CONTRACT NO. 		SHEET 4 OF 9	

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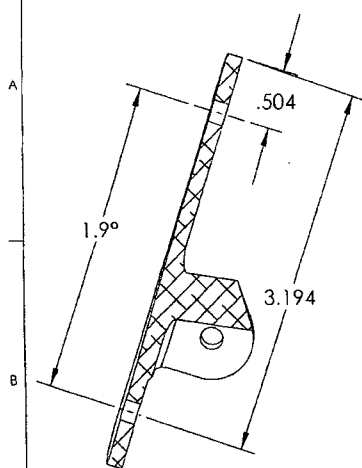
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



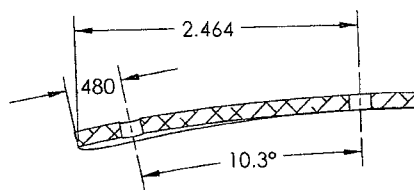
ORIGINAL DATE 10-03-10		APICAL INDUSTRIES	
DRAWN BY E. YOUNG		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAYO		BRACKETS	
DRAWING APPROVAL P. BRAYO 06-30-10		SCALE NONE	
CONTRACT NO.		SHEET 5 OF 9	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET 5 OF 9	REV. N/C

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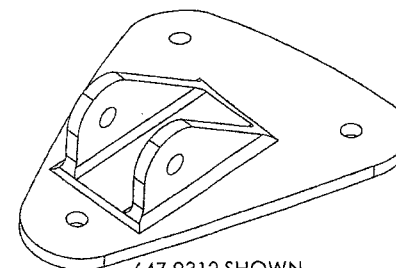
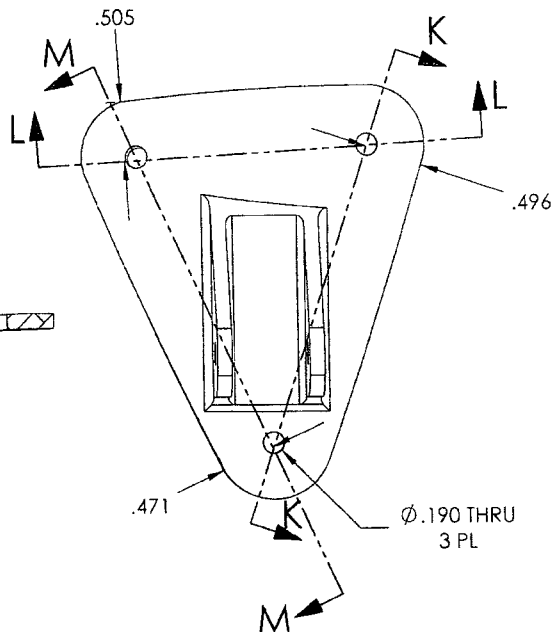
REV	DESCRIPTION	DATE	APPROVED



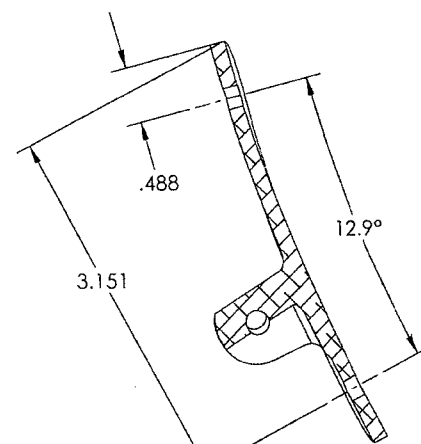
SECTION K-K



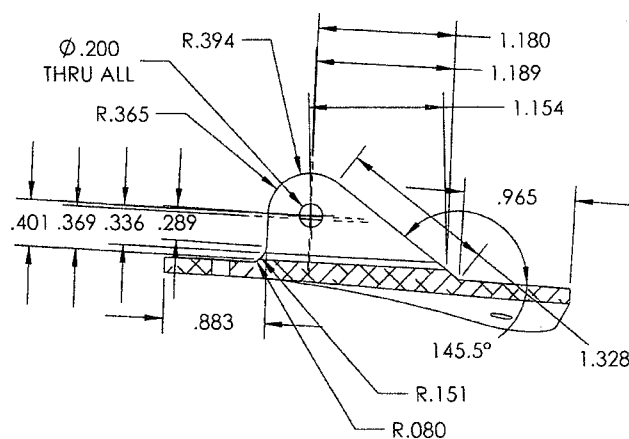
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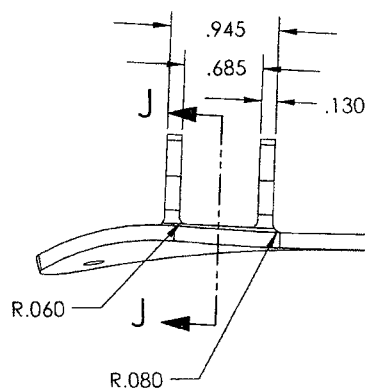
647.9312 SHOWN
647.9313 OPPOSITE



SECTION M-M



SECTION J-J

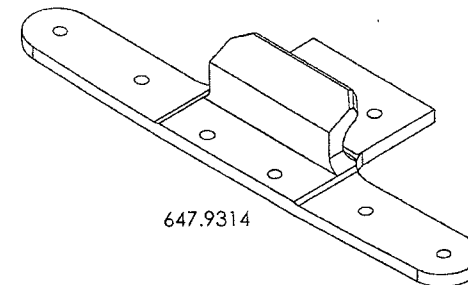
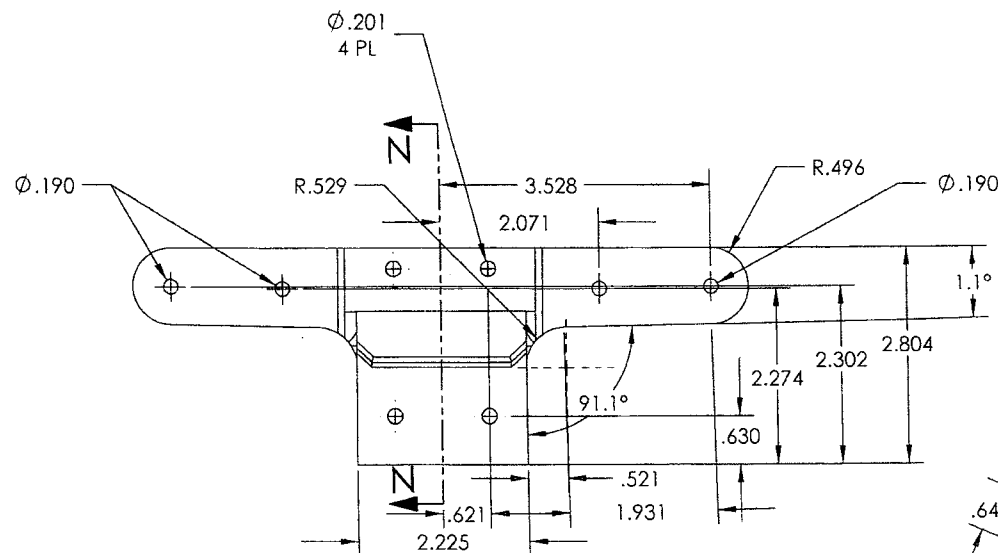


PARTS LIST

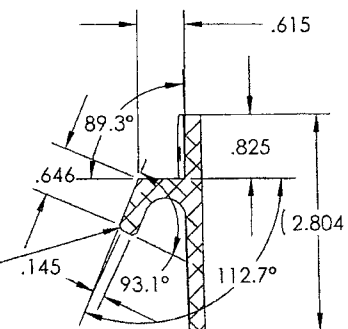
ORIGINAL DATE (DD-MY-YY) 08-01-10	APICAL INDUSTRIES		
DRAWN BY K. ROSANO	2608 TEMPLE HEIGHTS DR.		
CHECKED BY P. BRAVO	OCEANSIDE, CA. 92056-3512 (760)724-5300		
DRAWING APPROVAL P. BRAVO 08-30-10	BRACKETS		
CONTRACT NO.	SRE	ICADE CODE	DWG. NO. 647.9300
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .5°	B	07/M16	REV. N/C
	SCALE NONE		SHEET 6 OF 9

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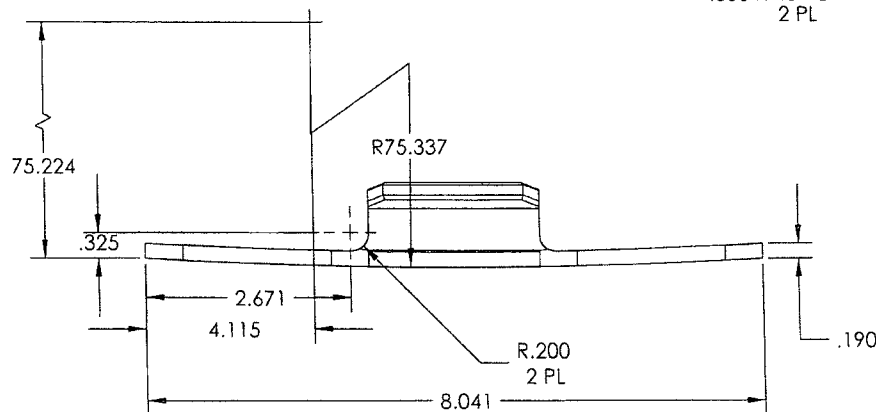
REV.	DESCRIPTION	DATE	APPROVED



.050 X 45° CHAM.
2 PL



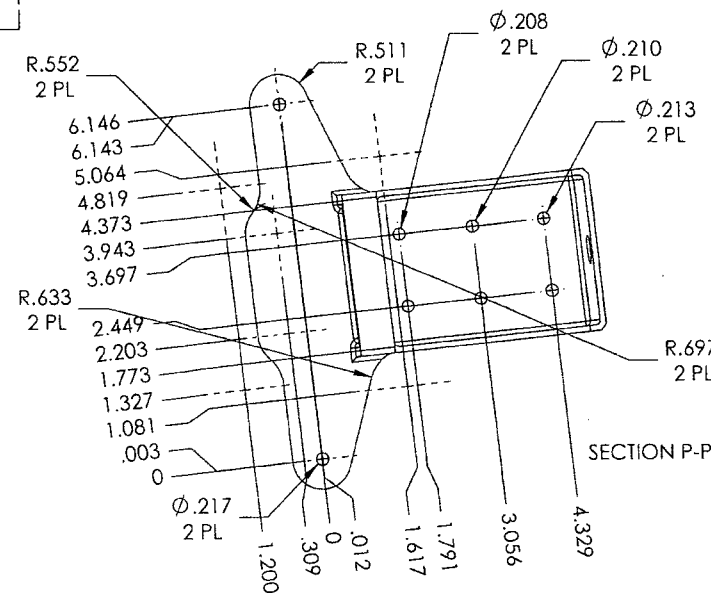
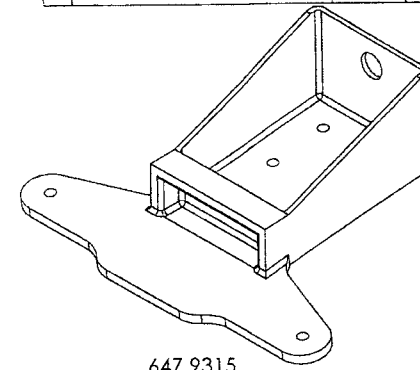
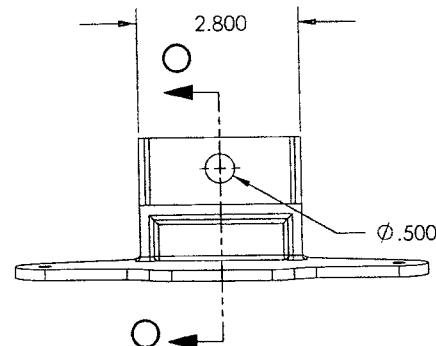
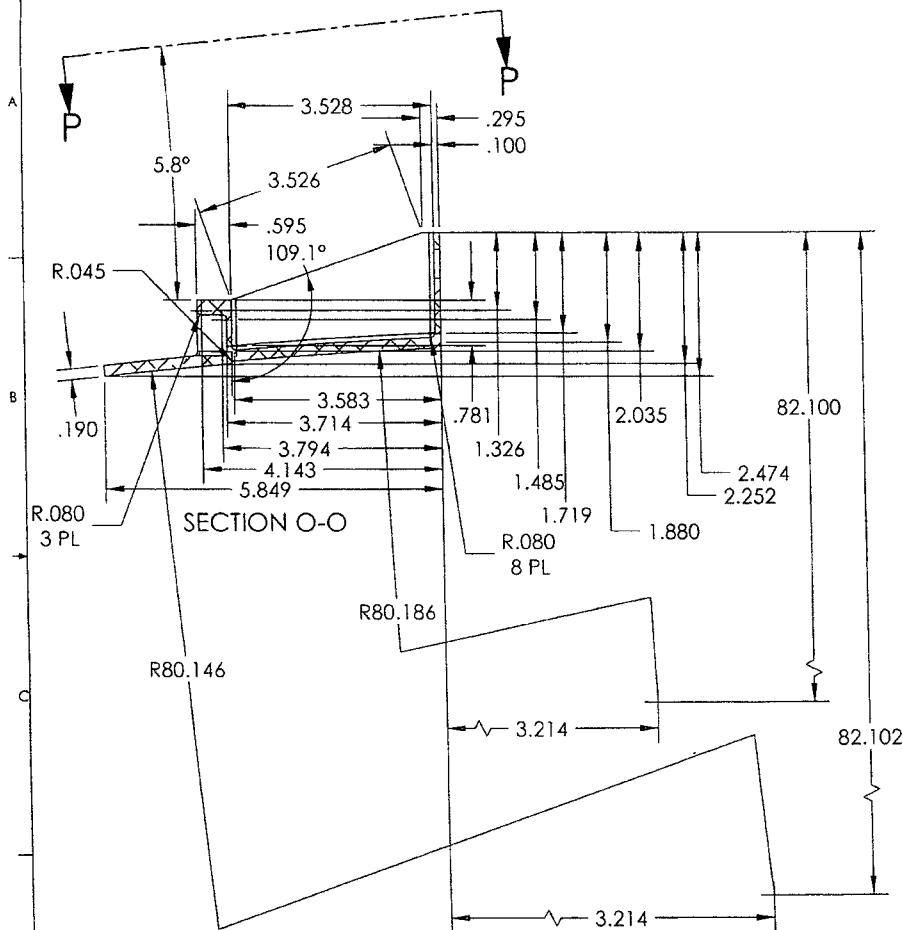
SECTION N-N



OPERATIONAL DATE 04-01-10		APICAL INDUSTRIES	
DRAWN BY P. MCSHANE	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DESIGNED BY P. BRAVO		BRACKETS	
CAGE CODE 07M26		DWG. NO. 647.9300	REV. N/C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACES DECIMALS ± .03 3 PLACES DECIMALS ± .010 ANGLES ± .5°		SCALE NONE	SHEET 7 OF 9

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

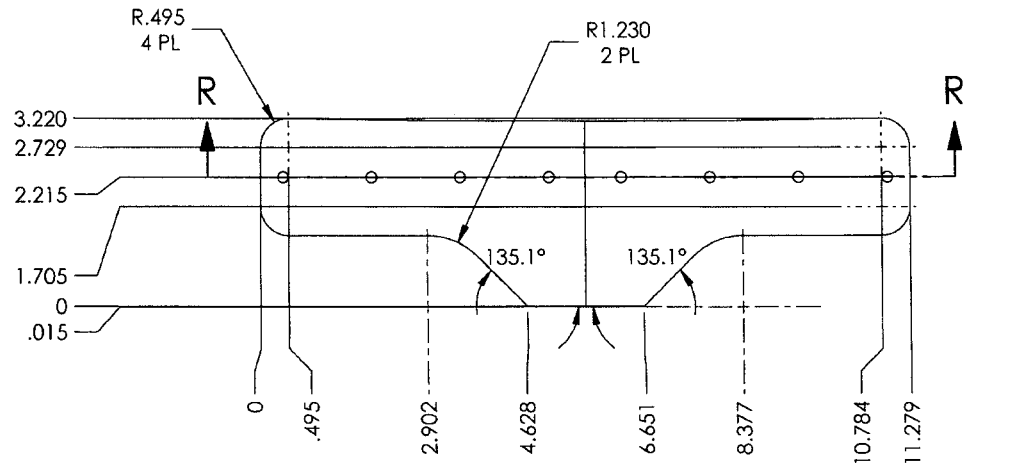
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



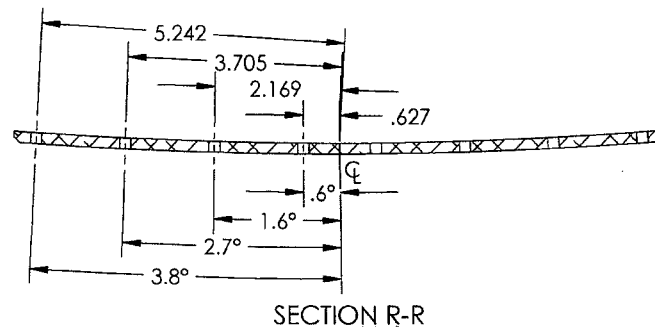
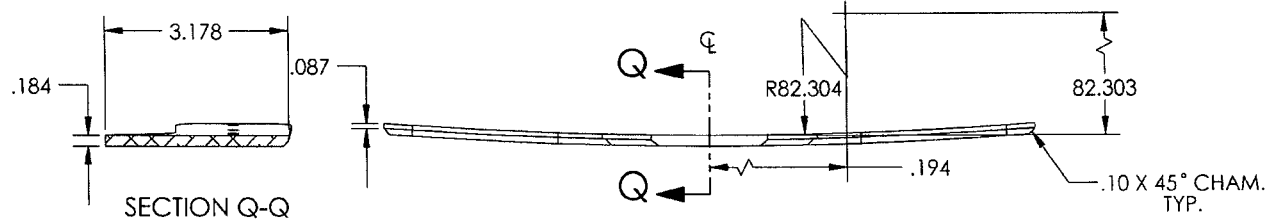
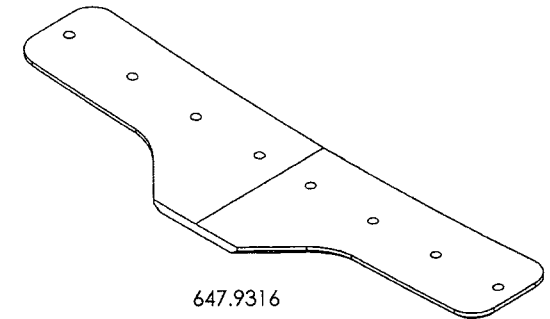
ORIGINAL DATE (DD-MY-YY) 06-01-10		APICAL INDUSTRIES	
DRAWN BY R. HOSANO		2608 TEMPLE HEIGHTS DR.	
CHECKER P. BRAVO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		BRACKETS	
DATE 06-01-10		SHEET 8 OF 9	
CONTRACT NO.		SCALE NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FOLLOWING IS APPL. 1 PLACE DECIMALS ±.03 2 PLACE DECIMALS ±.010 ANGLES ±.5°		REV N/C	
SHEET 8 OF 9		Dwg. No. 647.9300	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



647.9316



ORIGINAL DATE 1/20/01-1/21/01 55-81-10		APICAL INDUSTRIES	
DRAWN BY P. ROSANO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAVO		BRACKETS	
DELIVERY APPROVAL DATE 08-20-01		SCALE NONE	SHEET 9 OF 9
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS 1.00 3 PLACE DECIMALS 1.00 ANGLES 1/2°		REV. N/C	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23220

Purchase Order Date 3/4/2014

PO Print Date 3/4/2014

Page Number 1 of 2

Order From :

VC-ETM001

Ship To : DART AEROSPACE LTD

E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

RENFREW, ONTARIO K7V 4E7
CANADA

Contact Name

Vendor Phone 613-432-6136

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	647.9315P Part to be manufactured as per drawing 647.9300 rev.n/c B112394	Receptacle Bracket	5/2/2014 Yes 5/2/2014		10.00 Each	\$375.00	\$3,750.00
						Line Total:	\$3,750.00
2	71550-30	Fixture charge	5/2/2014 No 5/2/2014		1.00 Each	\$1,199.00	\$1,199.00
						Line Total:	\$1,199.00

Note:

3/4/2014



E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW, ON K7V 4E7
Canada
Ph: 613-432-6136
Fax: 613-432-8212

Pack List

Number: 118504

Date: 15-Jul-14

To

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ship To

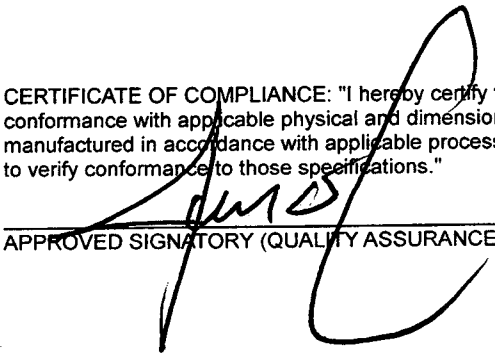
MICHAEL GREGOIRE
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-5246

Ph: 613-632-3336

Fax: 613-632-5246

Terms		Ship Via	
Net 30 days		FedEx Priority	
Quantity	Description		
10 each	Part: 647.9315P RECEPTACLE BRACKET **MANUFACTURE AS PER DRWING# 647.9300 rev n/c SO: 17041 **LOT #89479	Rev: N/C	Line: 1
<p>CERTIFICATE OF COMPLIANCE: "I hereby certify that the material described above is in conformance with applicable physical and dimensional specifications; that it was manufactured in accordance with applicable process specifications; and has been inspected to verify conformance to those specifications."</p> <p> APPROVED SIGNATORY (QUALITY ASSURANCE)</p>			

Form 1: Part Number Accountability

1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.	
2) Also indicate if the FAI is complete per Section 5.4: <input checked="" type="checkbox"/> FAI Complete <input type="checkbox"/> FAI Not Complete	
19. Signature	Clayton Youmans
21. Reviewed by	20. Date: 5/15/2014
23. Customer Approval	22. Date 15 Jun 14
	24. Date

AS9102 Revision A First Article Inspection

Form 2: Product Accountability – Raw Material, Specifications and Special Process(es),

Functional Testing

1. Part Number 647.9315P	2. Part Name RECEPTACLE BRACKET	3. Serial Number FAI PART		4. FAI Report Number N/A	
5. Material or Process – Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/N/A)	10. Certificate of Conformance Number
MATERIAL: ALUMINUM ALLOY	7075-T651 PER AMS-QQ-A- 250/12	N/A	N/A	N/A	CONSTELLUM LOT #146311
PROCESS: ANODIZE	HARD ANODIZE IAW MIL- A-8625 TYPEE III, CLASS 2. COLOUR: BLACK.	N/A	N/A	N/A	VERDUN CERT. #307762-00
PROCESS: PAINT	PRETREAT PR-148 ADHESION PROMOTER, PRIME 1AW MIL-P-23377 J TYPE I, CLASS N.	N/A	N/A	N/A	RLD CERT. #77344
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				
Not Applicable	Not Applicable				
13. Comments					
14. Prepared By Clayton Youmans			15. Date 5/15/2014		

1. Part Number 647.9315P			2. Part Name RECEPTACLE BRACKET			3. Serial Number FAI PART		4. FAI Report N/A	
Characteristic Accountability					Inspection / Test Results				
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
1	DWG SHEET 1 Zn A3	N/A	NOTE 3: DEBURR AND BREAK ALL SHARP EDGES.	ACCEPT	VERIFY	N/A	N/A		
2	ECN #07249 SHEET 1	N/A	NOTE 4: IDENTIFY IAW MPP-120.	ACCEPT	VISUAL	N/A	N/A		
3	ECN #03706 SHEET 1	N/A	R.080 3PL	5/64	RADIUS GAUGE	N/A	N/A		
4	ECN #03706 SHEET 1	N/A	R.200 4PL	R.201	RADIUS GAUGE	N/A	N/A		
5	ECN #03706 SHEET 2	N/A	R.125 2PL	R.125	RADIUS GAUGE	N/A	N/A		
6	ECN #03706 SHEET 2	N/A	R.080 4PL	R.078	RADIUS GAUGE	N/A	N/A		
7	DWG SHEET 8 Zn A1	N/A	5.8°	5.8°	GIVEN ANGLE	N/A	N/A		
8	DWG SHEET 8 Zn A1	N/A	R.045	R.047	RADIUS GAUGE	N/A	N/A		
9	DWG SHEET 8 Zn B1	N/A	.190	.192	VERNIER	N/A	N/A		
10	DWG SHEET 8	N/A	3.583	3.580	CMM	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Clayton Youmans

13. Date

5/15/2014

1. Part Number 647.9315P			2. Part Name RECEPTACLE BRACKET			3. Serial Number FAI PART		4. FAI Report N/A	
Characteristic Accountability					Inspection / Test Results				
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
	Zn B2								
11	DWG SHEET 8 Zn B2	N/A	3.714	3.705	HEIGHT GAUGE	N/A	N/A		
12	DWG SHEET 8 Zn B2	N/A	3.794	3.792	CMM	N/A	N/A		
13	DWG SHEET 8 Zn B2	N/A	4.143	4.144	CMM	N/A	N/A		
14	DWG SHEET 8 Zn B2	N/A	5.849	5.858	CMM	N/A	N/A		
15	DWG SHEET 8 Zn C1	N/A	R80.146	R80.145	VERIFIED CAD	N/A	N/A		
16	DWG SHEET 8 Zn C2	N/A	R80.186	R80.186	VERIFIED CAD	N/A	N/A		
17	DWG SHEET 8 Zn C3	N/A	3.214	3.214	VERIFIED CAD	N/A	N/A		
18	DWG SHEET 8 Zn D3	N/A	3.214	3.214	VERIFIED CAD	N/A	N/A		
19	DWG SHEET 8 Zn B3	N/A	.781	.780	CMM	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Clayton Youmans

13. Date

5/15/2014

1. Part Number 647.9315P	2. Part Name RECEPTACLE BRACKET	3. Serial Number FAI PART	4. FAI Report N/A
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Characteristic Accountability				Inspection / Test Results			
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents
20	DWG SHEET 8 Zn B3	N/A	1.326	1.324	CMM	N/A	N/A
21	DWG SHEET 8 Zn B3	N/A	1.485	1.486	CMM	N/A	N/A
22	DWG SHEET 8 Zn B3	N/A	1.719	1.720	CMM	N/A	N/A
23	DWG SHEET 8 Zn B3	N/A	2.035	2.036	CMM	N/A	N/A
24	DWG SHEET 8 Zn B3	N/A	1.880	1.879	CMM	N/A	N/A
25	DWG SHEET 8 Zn B4	N/A	2.252	2.254	HEIGHT GAUGE	N/A	N/A
26	DWG SHEET 8 Zn B4	N/A	2.474	2.475	CMM	N/A	N/A
27	DWG SHEET 8 Zn C4	N/A	82.102	82.102	VERIFIED CAD	N/A	N/A
28	DWG SHEET 8 Zn B4	N/A	82.100	82.100	VERIFIED CAD	N/A	N/A
29	DWG SHEET 8	N/A	.100	.103	CMM	N/A	N/A

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By Clayton Youmans	13. Date 5/15/2014
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AS9102 Revision A First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 6 of 9

1. Part Number 647.9315P	2. Part Name RECEPTACLE BRACKET	3. Serial Number FAI PART	4. FAI Report N/A
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Characteristic Accountability				Inspection / Test Results			
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents
	Zn A3						
30	DWG SHEET 8 Zn A3	N/A	.295	.294	OPTICAL COMPARATOR	N/A	N/A
31	DWG SHEET 8 Zn A2	N/A	3.528	3.529	CMM	N/A	N/A
32	DWG SHEET 8 Zn A2	N/A	3.526	3.528	OPTICAL COMPARATOR	N/A	N/A
33	DWG SHEET 8 Zn A2	N/A	.595	.596	CMM	N/A	N/A
34	DWG SHEET 8 Zn A2	N/A	109.1°	109°	CMM	N/A	N/A
35	DWG SHEET 8 Zn A5	N/A	2.800	2.804	CMM	N/A	N/A
36	DWG SHEET 8 Zn B6	N/A	Ø .500	.499	CMM	N/A	N/A
37	DWG SHEET 8 Zn B5	N/A	R.552 2PL	.554	CMM	N/A	N/A
38	DWG SHEET 8 Zn B5	N/A	6.146	6.140	CMM	N/A	N/A

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Clayton Youmans

13. Date

5/15/2014

1. Part Number 647.9315P			2. Part Name RECEPTACLE BRACKET			3. Serial Number FAI PART		4. FAI Report N/A	
Characteristic Accountability					Inspection / Test Results				
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
39	DWG SHEET 8 Zn B5	N/A	6.143	6.144	CMM	N/A	N/A		
40	DWG SHEET 8 Zn C5	N/A	5.064	5.065	CMM	N/A	N/A		
41	DWG SHEET 8 Zn C5	N/A	4.819	4.819	CMM	N/A	N/A		
42	DWG SHEET 8 Zn C5	N/A	4.373	4.372	CMM	N/A	N/A		
43	DWG SHEET 8 Zn C5	N/A	3.943	3.944	CMM	N/A	N/A		
44	DWG SHEET 8 Zn C5	N/A	3.697	3.690 / 3.688 / 3.688	CMM	N/A	N/A		
45	DWG SHEET 8 Zn C5	N/A	R.633 2PL	.636	CMM	N/A	N/A		
46	DWG SHEET 8 Zn C5	N/A	2.449	2.443 / 2.440 / 2.441	CMM	N/A	N/A		
47	DWG SHEET 8 Zn C5	N/A	2.203	2.204	CMM	N/A	N/A		
48	DWG SHEET 8	N/A	1.773	1.772	CMM	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Clayton Youmans

13. Date

5/15/2014

1. Part Number 647.9315P	2. Part Name RECEPTACLE BRACKET	3. Serial Number FAI PART	4. FAI Report N/A
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Characteristic Accountability				Inspection / Test Results			
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents
	Zn C5						
49	DWG SHEET 8 Zn C5	N/A	1.327	1.326	CMM	N/A	N/A
50	DWG SHEET 8 Zn C5	N/A	1.081	1.080	CMM	N/A	N/A
51	DWG SHEET 8 Zn C6	N/A	.003	.002	CMM	N/A	N/A
52	DWG SHEET 8 Zn D6	N/A	Ø .217 2PL	.220 / .220	CMM	N/A	N/A
53	DWG SHEET 8 Zn D6	N/A	1.200	1.199	CMM	N/A	N/A
54	DWG SHEET 8 Zn D7	N/A	.309	.310	CMM	N/A	N/A
55	DWG SHEET 8 Zn D7	N/A	.012	.011	CMM	N/A	N/A
56	DWG SHEET 8 Zn D7	N/A	1.617	1.619	CMM	N/A	N/A
57	DWG SHEET 8 Zn D7	N/A	1.791	1.782 / 1.783	CMM	N/A	N/A

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Clayton Youmans

13. Date

5/15/2014

ETM Industries Inc.AS9102 Revision A First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 9 of 9

1. Part Number 647.9315P			2. Part Name RECEPTACLE BRACKET			3. Serial Number FAI PART		4. FAI Report N/A	
Characteristic Accountability					Inspection / Test Results				
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
58	DWG SHEET 8 Zn D7	N/A	3.056	3.049 / 3.050	CMM	N/A	N/A		
59	DWG SHEET 8 Zn D8	N/A	4.329	4.324 / 4.324	CMM	N/A	N/A		
60	DWG SHEET 8 Zn C8	N/A	R.697 2PL	.699	CMM	N/A	N/A		
61	DWG SHEET 8 Zn B8	N/A	Ø .213 2PL	.209 / .209	CMM	N/A	N/A		
62	DWG SHEET 8 Zn B8	N/A	Ø .210 2PL	.209 / .209	CMM	N/A	N/A		
63	DWG SHEET 8 Zn B8	N/A	Ø .208 2PL	.209 / .209	CMM	N/A	N/A		
64	DWG SHEET 8 Zn B7	N/A	R.511 2PL	.513	CMM	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By

Clayton Youmans

13. Date

5/15/2014

B I L L O F L A D I N G
Ship From: (1)
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship To: (1)
E T M INDUSTRIES INC
310 HALL AVENUE
RENFREW, ON K7V 2S5
Tel: 613-432-6136 Fax: 613-432-8212

No: PEC 868435
Ship Date 19Mar14 at 11:02 From PFW.
Probill T161245 19425321
Via MANITOULIN TRA
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20132)
E T M INDUSTRIES INC
P O BOX 610
RENFREW, ON K7V 4E7

B I L L O F L A D I N G

1) Our Order PEC-661672- 1 Your PO # 98418
Part # 89479 Rel #

MTR

CofC

ALUMINUM PLATE 7075-T651
2.75" THICK X 6.2500" X 7.5000"

Heat Number Tag No
146311 273215

Quantity PCS
3.26 SFT 10

Wt LBS
132

2) Our Order PEC-661672- 2 Your PO # 98418
Part # 89511-89510 Rel #

ALUMINUM ROUND BAR 7075-T651
3.00" DIA X 24.0000"

Heat Number Tag No
MA20140169 273216

Quantity PCS
4 FT 2

Wt LBS
35

TOTAL: Tags PCS
2 12

LBS
167

DO NOT CHARGE ENERGY SURCHARGE (06-2011)
SEND MTR'S * GENERIC COFC'S WITH EVERY SHIPMENT
MUST INCLUDE THE FOLLOWING INFORMATION:
COMPANY NAME
SALES ORDER #
P.O.#
ITEM#
AND DESCRIPTION OF PRODUCT & SPECIFICATIONS
(ie. ASTM SPECS)

** DO NOT SHIP MATERIAL WITHOUT MTR'S & CofC'S * >

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ETRE
RAPPORTEES IMMEDIATEMENT
SHORTAGE OR SHORTAGE MUST BE REPORTED IMMEDIATELY
RETURN OF MARCHANDISES AVEC LE NUMERO D'APPROBATION SEULEMENT
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER

SHIP FROM:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship To: (1)
E T M INDUSTRIES INC

No: PEC 868435
Ship Date 19Mar14 at 11:02 From PFW
Probill T161245 19425321
Via MANITOULIN TRA
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20132)
E T M INDUSTRIES INC

B I L L O F L A D I N G

> CLOSE AT NOON ON FRIDAYS <
TOTAL 1 SKID, 1 BDL G.W. 185 LBS

ITEM (1) SKID
ITEM (2) BDL

*CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA
CONCORD, ONT.* *** 9:00 AM TO 4:00 PM ***
**** TEL. 800-926-2600 ****

* WE STOCK STAINLESS STEEL *
* PLEASE LET US QUOTE YOUR NEXT REQUIREMENT *

***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
ADDED TO EVERY ORDER.***

Page: 2 Last

TOUS LES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.
ALL ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY.
RETOUR DE MARCHANDISES AVEC NOTRE NUMÉRO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.



CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC



COPPER & BRASS SALES
1015 SAINT JEROME STREET
MISHAWAKA IN

46544



COPPER & BRASS
P.O. BOX 5116
SOUTHFIELD MI

48086

COPPER&BR 528701 4075 INCLUSION SERIAL#: 20140224528701 PAGE 1 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400210510				Constellium ORDER NO. 110-513697	
ALLOY 7075	CLAD. 00	TEMPER T651	GAUGE 2.78000	WIDTH 60.500	LENGTH 144.500
ITEM ORDERED MOLD PLATE-DIST GE SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER ALFLR01005		B/L NUMBER 528700		DATE SHIPPED 02/26/14	
WEIGHT SHIPPED 7,650		NO. OF PIECES 3		GOVT. CONTRACT NO.	

CERTIFICATION
"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC
859 Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

Steve Good
Steve Good - Laboratory Manager

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS										
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN	MAX									
146311	LT	2	***** T651 79.1	79.8	68.1	68.9	***** 13.0	13.5											
All material contained in lot 146311 was cast and manufactured in the USA.																			

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS																			

ASTM B209-10,AMS 4045K																			
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
	SEE ACTUAL CHEMICAL COMPOSITION																		
	ALUMINUM REMAINDER																		



CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC



COPPER & BRASS SALES
1015 SAINT JEROME STREET
MISHAWAKA IN

46544



COPPER & BRASS
P.O. BOX 5116
SOUTHFIELD MI

48086

COPPER&BR 528701 4075 INCLUSION SERIAL#: 20140224528701 PAGE 2 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM				Constellium ORDER NO.	
5400210510				110-513697	
ALLOY	CLAD.	TEMPER	GAUGE	WIDTH	LENGTH
7075	00	T651	2.78000	60.500	144.500
ITEM ORDERED					
MOLD PLATE-DIST GE					
SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION					
AMS-QQ-A-250/12					
PART NUMBER			B/L NUMBER		DATE SHIPPED
ALFLR01005			528700		02/26/14
WEIGHT SHIPPED		NO. OF PIECES		GOVT. CONTRACT NO.	
7,650		3			

CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC
859 Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

Steve Good
Steve Good - Laboratory Manager

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS											
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN	MAX										
146311	C		ACTUAL CHEMICAL COMPOSITION																	
			SI= 0.08	FE= 0.14	CU= 1.44	MN= 0.03	MG= 2.42													
			CR= 0.21	ZN= 5.56	TI= 0.03	ZR= 0.01														
			OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER																	
CHEM COMP.	ALLOY		SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
			SEE ACTUAL CHEMICAL COMPOSITION																	
			ALUMINUM REMAINDER																	



CERTIFIED TEST REPORT
Constellium Rolled Products Ravenswood, LLC



COPPER & BRASS SALES
1015 SAINT JEROME STREET
MISHAWAKA IN

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COPPER & BRASS
P.O. BOX 5116
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48086

COPPER&BR 528701 4075 INCLUSION SERIAL#: 20140224528701 PAGE 3 OF 3

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			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN	MAX											
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.																					
CHEMISTRY BY OES: ARKSPARK																					
CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT.																					
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399.																					
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557.																					
Mark Paperwork: ALFLR01005																					
DUNS Number: 090570149; CAGE Code: 1YWL9																					
Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.																					
"END OF CERTIFICATION"																					
CHEM COM P	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS			
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.		
	SEE ACTUAL CHEMICAL COMPOSITION																				
ALUMINUM REMAINDER																					

COPPER AND BRASS SALES

MATERIAL TYPE

ALUMINIUM ALLOYS

PRODUCT DESIGNATION

2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7

"WARNING"

SMALL CHIPS,FINE TURNINGS AND DUST MAY IGNITE READILY.EXPLOSION POTENTIAL MAY BE PRESENT WHEN:DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR,CHIPS,FINES,DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE.KEEP AWAY FROM IGNITION SOURCE.USE EXPLOSION-PROOF VENTILATION.KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER.INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD),A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS.BERYLLIUM IS A CANCER HAZARD;OVER TIME CBD AND CANCER CAN BE FATAL,TARGET ORGAN IS PRIMARILY THE LUNG.INHALING LARGE AMOUNTS OF COPPER,MAGNESIUM OXIDE,MANGANESE OXIDE,AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS.CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN;AND SKIN,TEETH,AND HAIR DISCOLORATION.CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE,SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES.TARGET ORGAN IS PRIMARILY THE LUNG,BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER.CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS.CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS.OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES,NOSE,AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS.INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER.NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN.EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE.UNDER HIGH TEMPERATURES,HEXAVALENT CHROMIUM MAY BE PRODUCED,IF IN THE INSOLUBLE FORM,IT IS A CONFIRMED HUMAN CARCINOGEN.(CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL,MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT.WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINIUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

* If processing or recycling produces particulate,use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding,grinding,abrasive sawing,sanding and polishing.Any activity which abrades the surface of this material can generate airborne particulate.Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

* Aluminum, in solid form and as contained in finished products presents no special health risk.

* Sold for manufacturing purposes only.This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales,22355 West Eleven Mile Road, Southfield, MI 48033,telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.



CERTIFICATE OF COMPLIANCE

Date: MARCH 19, 2014

Customers: E T M INDUSTRIES INC

To Whom It May Concern:

RE: Your PO 98418

OUR B/L-868435

Work order no. 661672

DESCRIPTION	SIZE	HEAT NO	SPECIFICATIONS
PART 89479 ALUMINUM PLATE 7075-T651	2.75" THICK X 6.25" X 7.5"	146311	ASTM B209
PART 89511-89510 ALUMINUM ROUND BAR 7075-T651	3.0" DIA X 24"	MA20140169	ASTM B211

We certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com

We hereby certify that the material supplied against the above order complies with the above Specifications .

Sincerely,

A handwritten signature in cursive script, appearing to read 'Yolande'.

YOLANDE

THYSSENKRUPP MATERIALS NA



Anodisation Verdun Inc.

Verdun Anodizing Inc.

3971, ave Verdun, Verdun (Quebec) H4G 1L1

AS 9100:2004

ISO 9001:2000

Certified

info@verdunanodizing.com

Tel: (514) 761-4531

Fax: (514) 769-4731

CERTIFICATE OF SUB-CONTRACTOR

ETM

ETM

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E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW
Ontario K7V 4E7

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E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW
Ontario K7V 4E7

Customer Order No.	Order Date	Process Date	Certificate No.
98893	21/05/14	26/05/14	307762-00

PROCESS: MIL A-8625F1 TY III Cl 2 NOIR DIW Seal

Item No.	Quantity	Description	Serial #
001	10.0	647.9315P LINE:001 RECEPTABLE BRACKET REV:NC JOB:89479 DUE:27 MAY 14	MAT:7075-T651

We hereby certify that the parts described above and furnished by E.T.M. INDUSTRIES INC. have been treated in accordance with the relevant specifications, PO requirements and that no substitution of materials has been made.

Inspector:



Verdun Anodizing Inc.



- POWDER COATING
- ELECTROSTATIC ON-SITE
- BAKED ENAMEL FINISHES

Industries Ltd.

4210 ALBION ROAD
OTTAWA, ONTARIO K1T 3W2

TELEPHONE: (613) 822-4000
FAX: (613) 822-3303

EMAIL: rlid@magma.ca
WEB: www.rlidindustries.com

LETTER OF COMPLIANCE

E.T.M. Industries Inc.
P.O. Box 610, 266 Hall Avenue East
Renfrew, Ontario
K7V 4E7

Purchase Order #: 99265

RLD W/O #: 77344

DATE: July 15, 2014

PART:

Quantity	Part Number	Description
10	647.9315P	RECEPTACLE BRACKET

SPECIFICATION:

Parts were painted July 14, 2014 as follows:

Primer: 02GN084, DEFT, Aqua Green, Batch # 99460, MILS .9 DFT and Expiry Date Oct./15

Prime per IAW MIL-P-23377J, Type 1, Class N.

Parts also passed a non-destructive tape test.


Roger Lortie
Purchaser/Estimator/Quality Assurance
RLD INDUSTRIES LTD.

Eric Downing

From: Pablo Bravo
Sent: Friday, July 18, 2014 9:57 PM
To: Eric Downing
Cc: Jean-Luc Menard; Patrick Smith; Nigel Forbes; Sylvain Boyer; Michael Gregoire
Subject: Re: 647.9315

Eric,

They won't have a negative functional effect on the system, so I think it's up to QC to determine if they will be rejected on the basis of aesthetics. Otherwise, the parts can be used as-is, with the assumption that the supplier is contacted to rectify future deliveries.

Pablo

> On Jul 18, 2014, at 5:28 AM, "Eric Downing" <edowning@dartaero.com> wrote:

>

> Morning Pablo

>

> Any answer on this issue? I would like to have the parts out of our inspection area and into stores before the end of today or to have production know that the parts are to be scrapped and have them re-machined by our supplier.

>

> Thanks

> Eric Downing

>

> From: Eric Downing

> Sent: Thursday, July 17, 2014 8:03 AM

> To: Pablo Bravo; Michael Gregoire

> Cc: Jean-Luc Menard; psmith@dartaero.com; Nigel Forbes; Sylvain Boyer

> (sboyer@dartaero.com)

> Subject: 647.9315

> Importance: High

>

> Good morning Mike & Pablo

>

> We received in qty x 10 647.9315 on PO#23220 and they all have significant chatter marks in all 4 corners of the pocket. Please see the attachment.

>

> Pablo

>

> Is the chatter marks acceptable? Please let me know

>

> They seem to be about 0.20"-0.25" from the bottom of the floor and completely around the corner and about .020"-0.030" in depth.

>

> Mike

>

> Please contact ETM industries and try to get a root cause and corrective action on how this happened.

>

> NCR 14-4045 has been raised to address this issue.
>
> Thanks
>
> Eric Downing
> QC Coordinator
> T: 1-613-632-5200 ext 223
> C:1-613-363-9375
> F: 1-613-632-5246
> www.dartaero.com<<http://www.dartaero.com>>
> Edowning@Dartaero.com<<mailto:Edowning@Dartaero.com>>
> [\[cid:image001.jpg@01CE0937.699FE1A0\]](#)
>
>
> <647.9315 PO#23220 B112394 with chatter marks.docx> <NCR 14-4045.pdf>
> <image001.jpg>

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE RELEASE P21	09-22-10	P. BRAVO
2	INITIAL RELEASE		

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12. **SHEET 2**
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N. **SHEET 2**
3. DEBURR AND BREAK ALL SHARP EDGES. ①
4. IDENTIFY IAW MPP-120. LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

RECEIVED
MAR 5 11 11

UNINCORPORATED ECN(s)

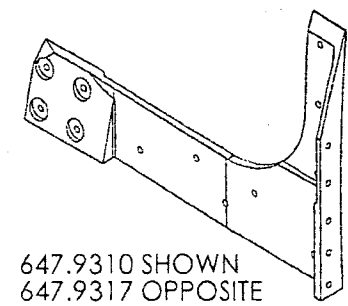
03209, 03706, 04249

	647.9317	RH BRACKET	①	②	③
	647.9316	CROSSBAR BRACKET	①	②	③
	647.9315	RECEPTACLE BRACKET	①	②	③
	647.9314	RETAINER BRACKET	①	②	③
	647.9313	BRACKET	①	②	③
	647.9312	BRACKET	①	②	③
	647.9311	SUPPORT BRACKET	①	②	③
	647.9310	LH BRACKET	①	②	③
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.	
QTY	PARTS LIST				
NEXT ASSY (S)	647.8900	ORIGINAL DATE 06-22-10 DRAWN BY R. BOLDADO CHECKED P. BRAVO DRAWING APPROVAL DATE 06-22-10 CONTRACT NO.	APICAL INDUSTRIES 2603 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92036-3512 (760) 724-5300		
		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACE DECIMALS ± .00 3 PLACE DECIMALS ± .010 ANGLES ± .5°	SET DATE CODE 07/11/26 END NO. 647.9300	REV N/C	
			SCALE NONE	SHEET 1 OF 9	

SHEET 2

①

REV.		DESCRIPTION	DATE	APPROVED



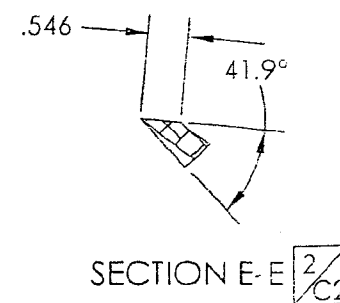
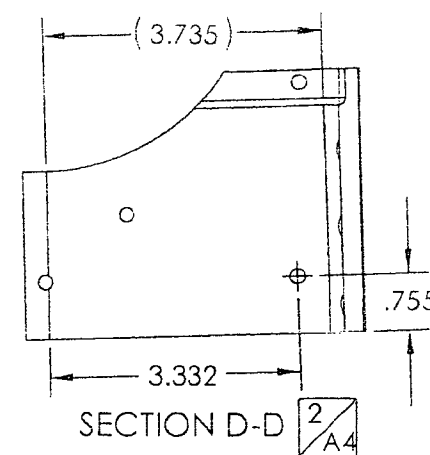
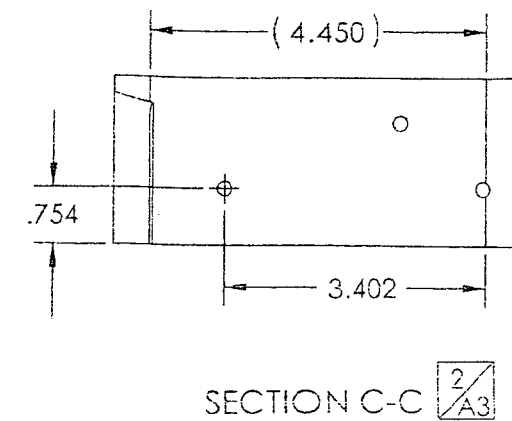
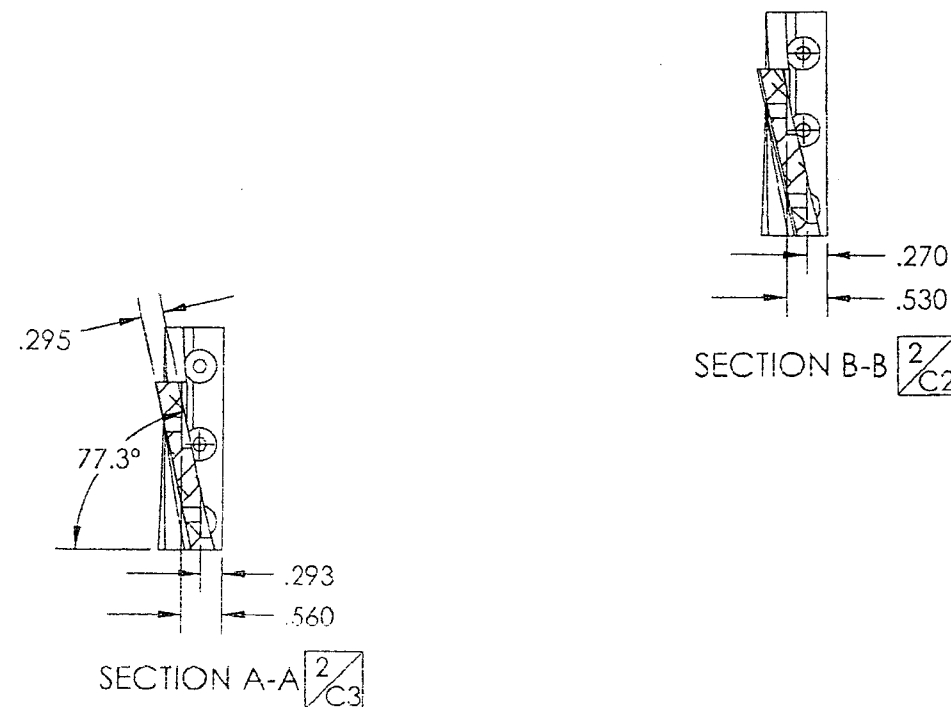
647.9310 SHOWN
647.9317 OPPOSITE

RECEIVED
MAR. 5/14

ORIGINAL DATE (M/D/Y) C-01-10	APICAL INDUSTRIES 2408 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		
DRAWN BY P. POSA INC	CHECKED P. SBA INC		
DRAWING APPROVAL (S/NO) C-10-10			
CONTRACT NO.	BRACKETS		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACES DECIMALS ± .005 3 PLACES DECIMALS ± .001 4 PLACES ± .01"	SHEET B	C.A.G. CODE 07MZ6	DWG. NO. 647.9300
	SCALE: NONE		REV. N/C
	SHEET 2 OF 9		

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



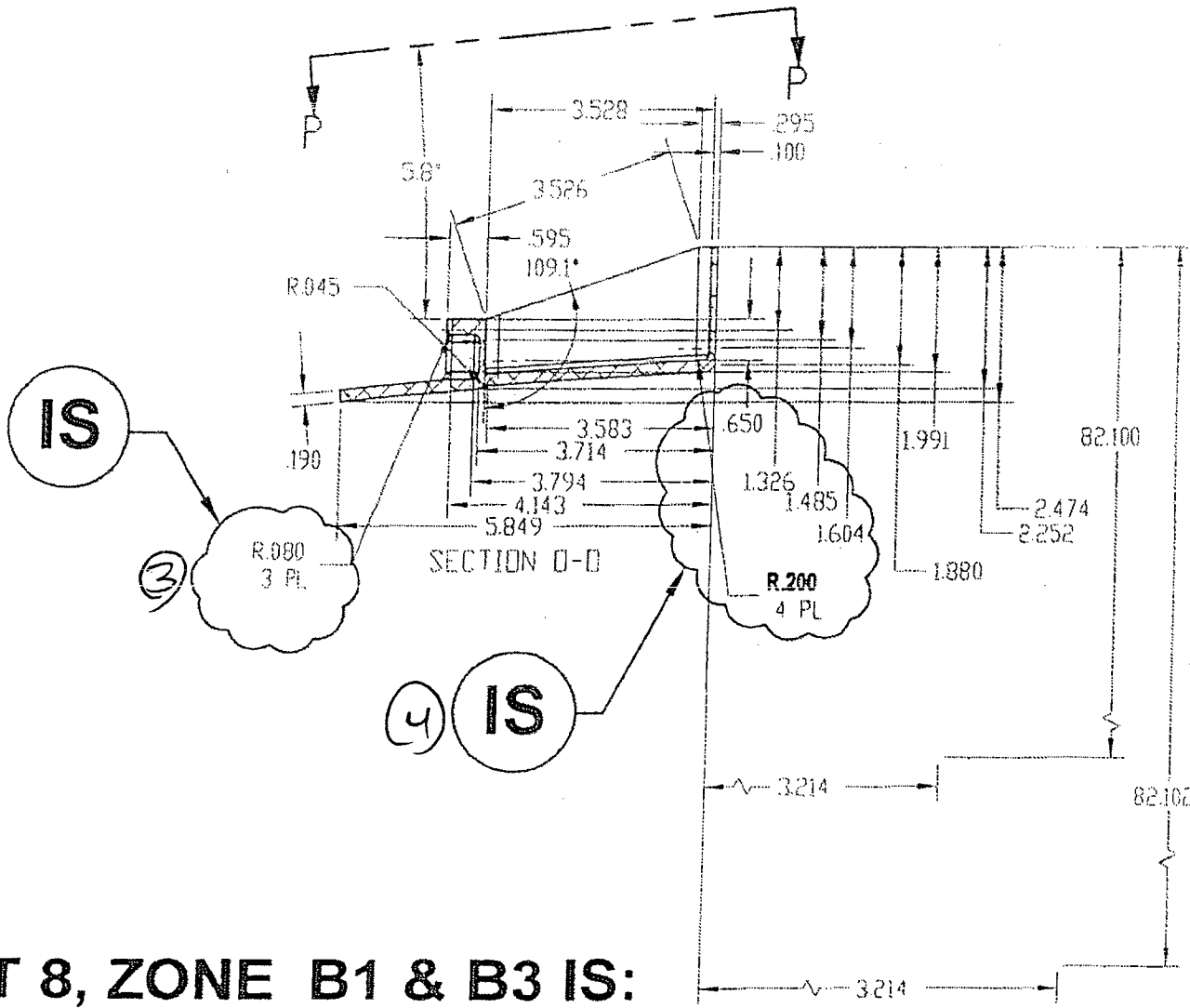
RECEIVED
MAR 5 1984

ORIGINAL DATE (M/D/YY)		DATE	
DRAWN BY R. ROSANO	CHECKER P. BRAVO	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		BRACKETS	
CONTRACT NO.		SIZE 6	REV N/C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .5°		DWG NO. 647.9300	SHEET 3 OF 9
SCALE NONE			

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03706				SHEET 1 OF 2	
	DWG NO. 647.9300	REV: N/C	PREPARED BY B. PETERS	DATE: 11/16/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFFECT: NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED RADII ON 647.9315.			EFFECT: D-12-012	

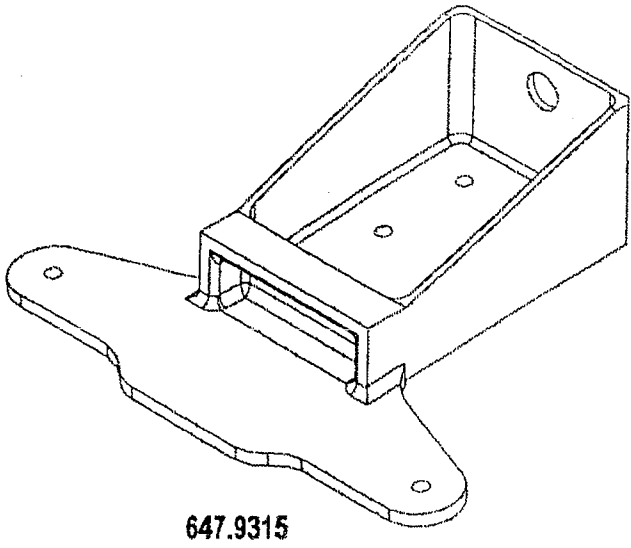
SHEET 1, ZONE B4, NOTE 10 IS:

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 11-16-12.



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MAR 5 14

CONTROLLED
11/16/12



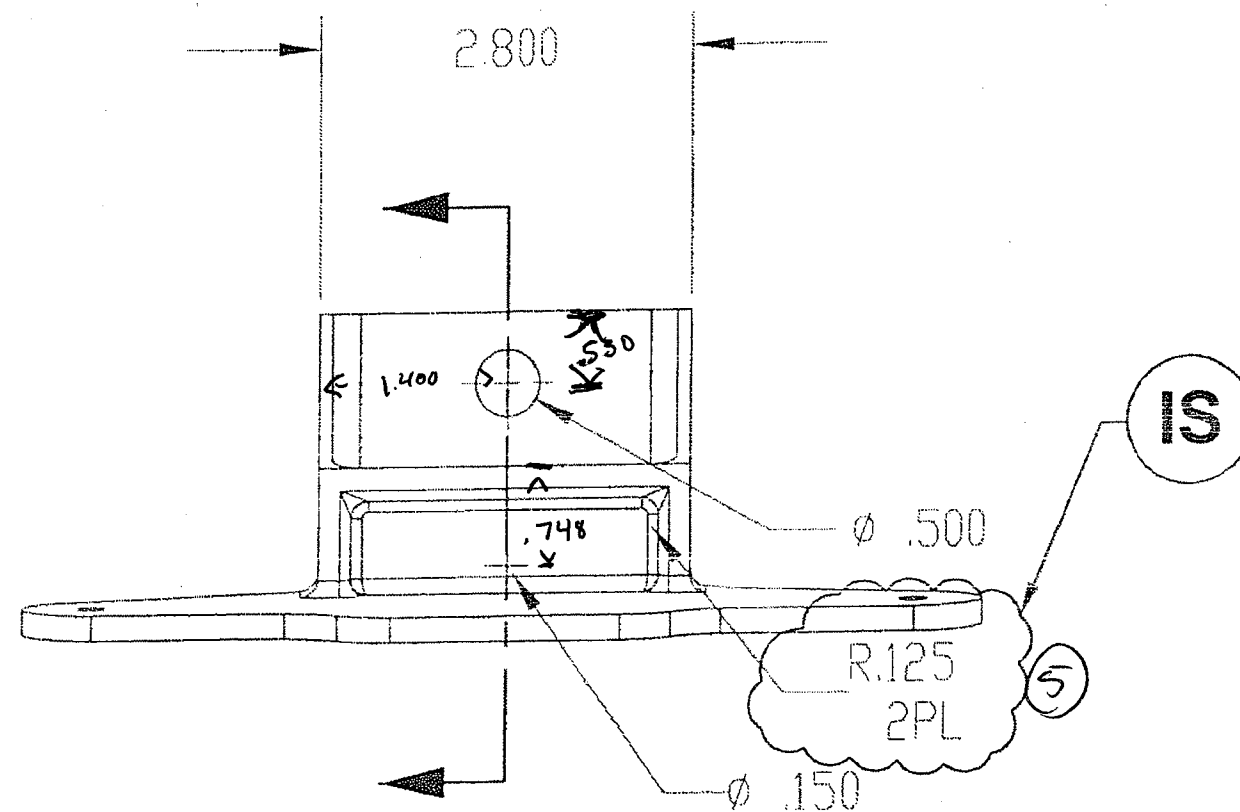
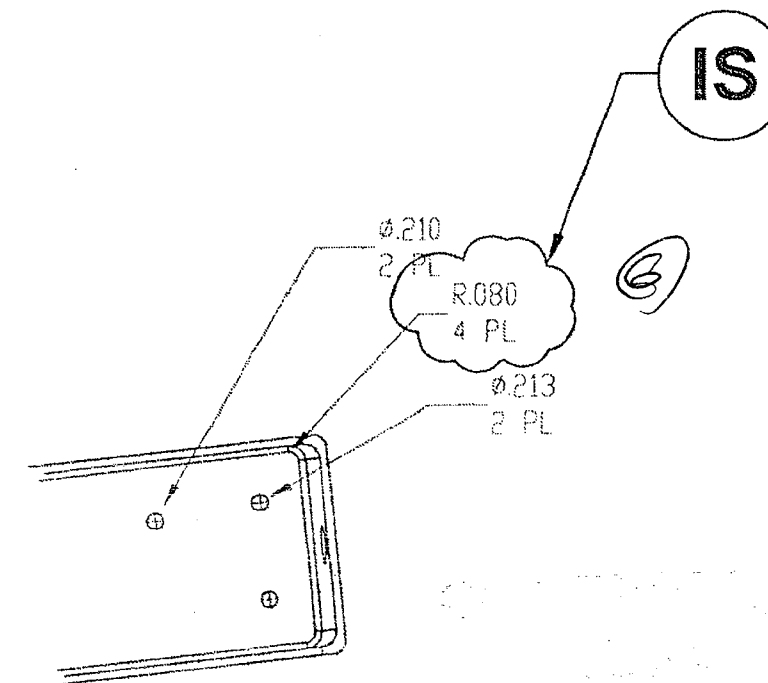
647.9315

SHEET 8, ZONE B1 & B3 IS:

SHEET 8, ZONE A7 IS:

DOCUMENTS EFFECTED:	<input type="checkbox"/> RFMS <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input type="checkbox"/> BOM CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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(34)

RECEIVED
MAR 31 1994SHEET 8, ZONE B6 IS:

SECTION P-P

SHEET 8, ZONE B8 IS:

5-6

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
-----	----	-------------	-----	-------------	------------------------

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REVISION			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASED		
N/C	INITIAL RELEASE	05-22-10	P. BRAVO

NOTES: UNLESS OTHERWISE SPECIFIED

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3. DEBURR AND BREAK ALL SHARP EDGES. ①
4. IDENTIFY IAW MPP-120. LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPR, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPR, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
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12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPR, LAST MODIFIED 06-22-10.

UNINCORPORATED ECN(s)

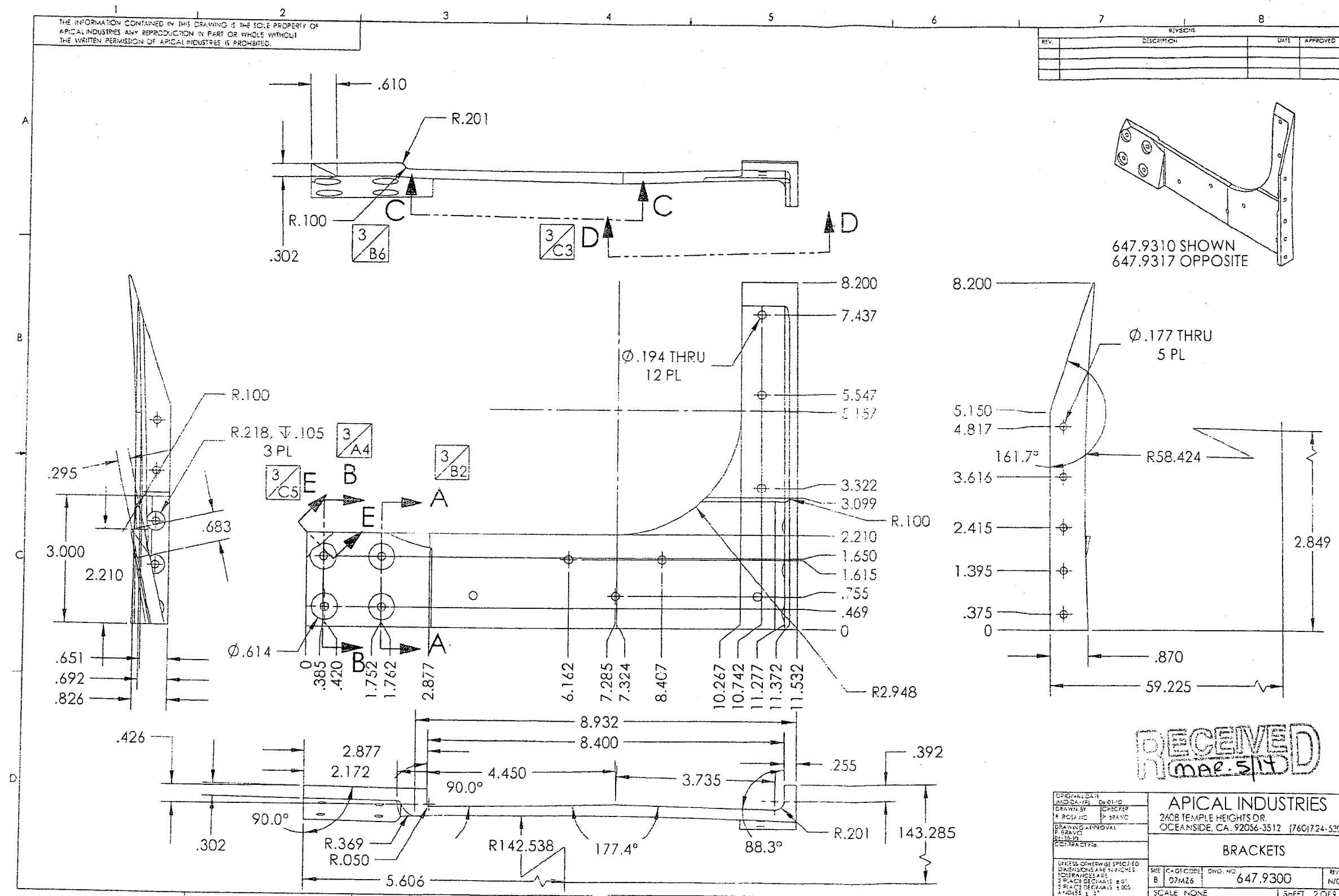
03209, 03706, 04249

	647.9317	RH BRACKET	①	②	③
	647.9316	CROSSBAR BRACKET	①	②	③
	647.9315	RECEPTACLE BRACKET	①	②	③
	647.9314	RETAINER BRACKET	①	②	③
	647.9313	BRACKET	①	②	③
	647.9312	BRACKET	①	②	③
	647.9311	SUPPORT BRACKET	①	②	③
	647.9310	LH BRACKET	①	②	③
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.	
QTY	PARTS LIST				
NEXT ASSY IS:	647.8900	ORIGINAL DATE: 06-21-10 DRAWN BY: J. HOLLAND CHECKED BY: P. BRAVO DRAWING APPROVAL: 06-22-10 CONTRACT NO:	APICAL INDUSTRIES 2605 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92036-3512 (760) 724-5300		
		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACES DECIMALS ± .01 ANGLES ± .5°	BRACKETS		
			REV. 3	DATE 07/26	DWG NO. 647.9300
			SCALE: NONE		
			SHEET 1 OF 9		

SHEET 2

①

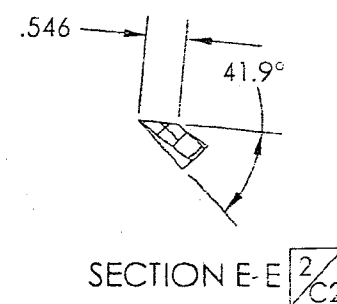
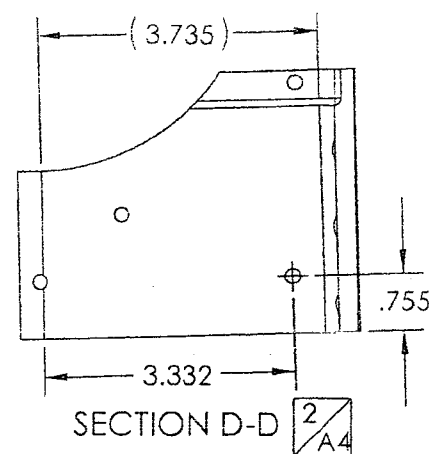
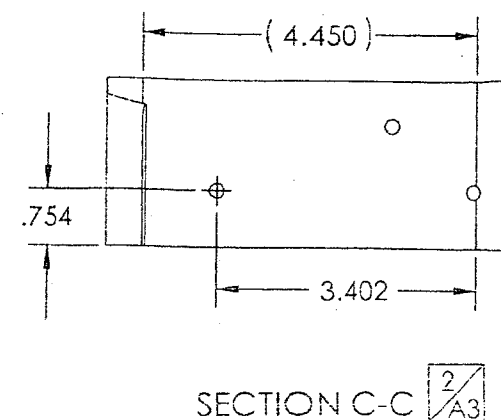
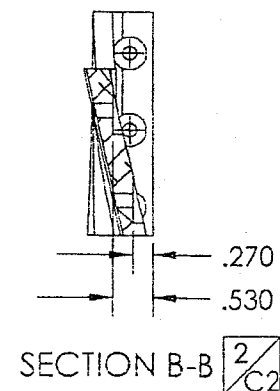
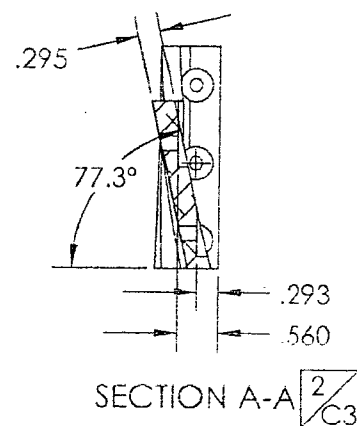
7				8			
REVISIONS							
REV.	DESCRIPTION			DATE		APPROVED	



ORIGINAL DATE MODIFIED BY DRAWN BY P. ROSE NO DRAWING APPROVAL P. ROSE CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5321		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE ±.005 DECIMALS ±.005 ±.005 DECIMALS ±.005 ±.005	SHEET NO. B	C.A.G. CODE 07M26	DWD. NO. 647.9300
	SCALE NONE		SHEET 2 OF 2

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



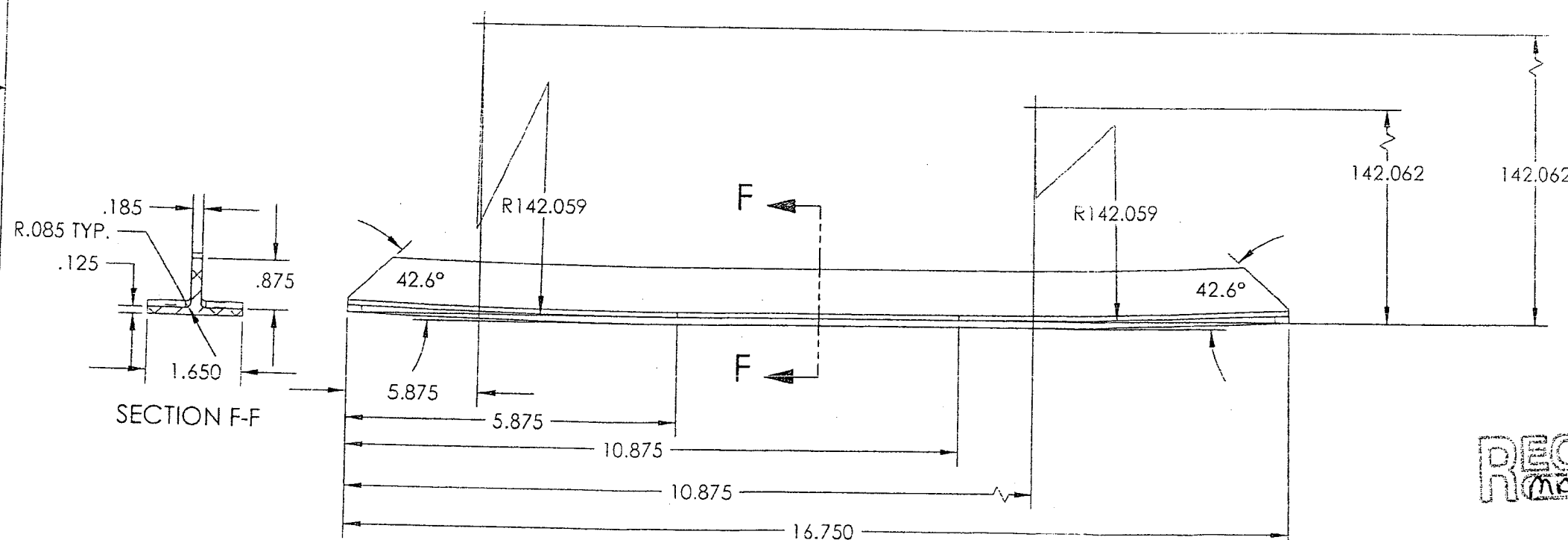
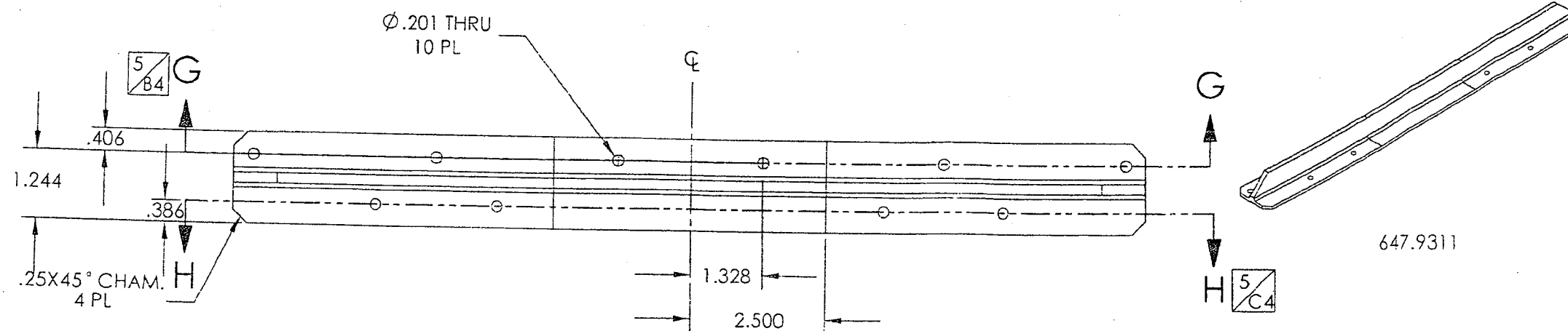
COMPLETED

RECEIVED
MAR 5 1984

ORIGINAL DATE (Y/M/DA/YY) 05/01/80		APICAL INDUSTRIES	
DRAWN BY R. ROSANO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAVO		BRACKETS	
DRAWING APPROVAL P. BRAVO		SCALE NONE	
DATE IN CONTRACTING		SHEET 3 OF 9	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS .001 2 PLACE DECIMALS .005 ANGLES ± .5°		SIZE B	CAGE CODE 07M76
		DWG. NO. 647.9300	REV N/C

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REV	DESCRIPTION	DATE	APPROVED



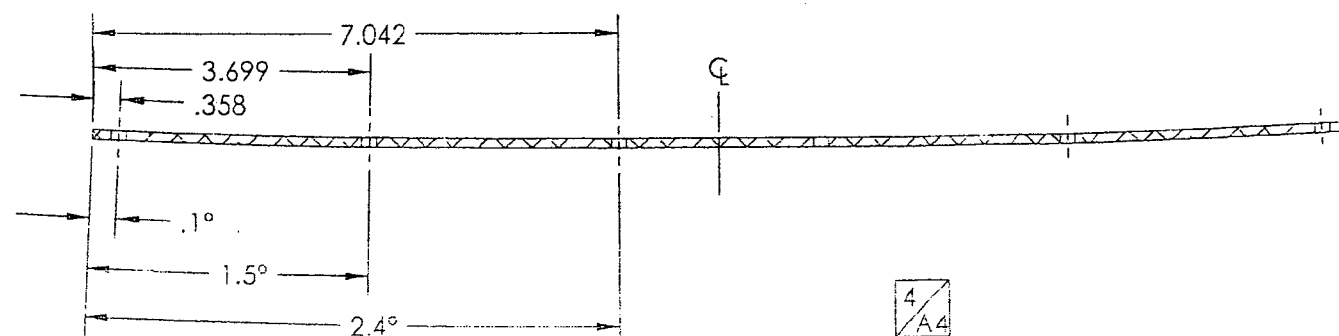
SECTION F-F

RECEIVED
MAR 25 1990

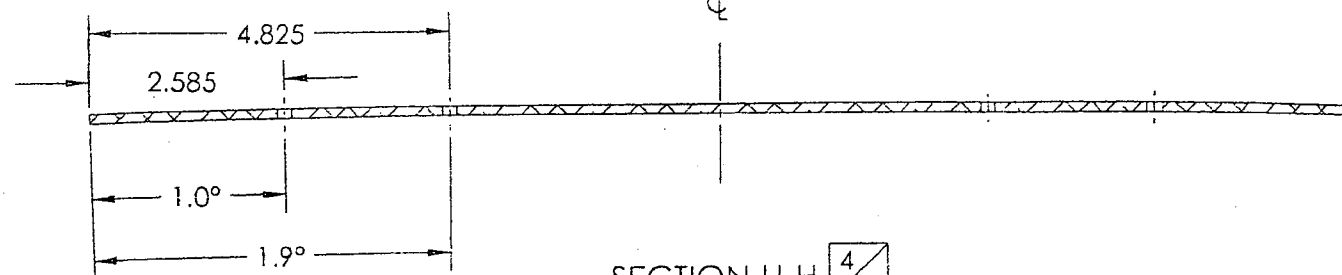
ORIGINAL DATE 18-02-90	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300
DRAWN BY R. ROSANO	BRACKETS
CHECKED BY P. BRAVO	SIZE: CAGE CODE: DWG NO: 647.9300
DRAWING APPROVAL P. BRAVO	REV: N/C
CONTRACT NO.	SCALE: NONE SHEET 4 OF 9

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS		DATE	APPROVED
REV.	DESCRIPTION		



SECTION G-G



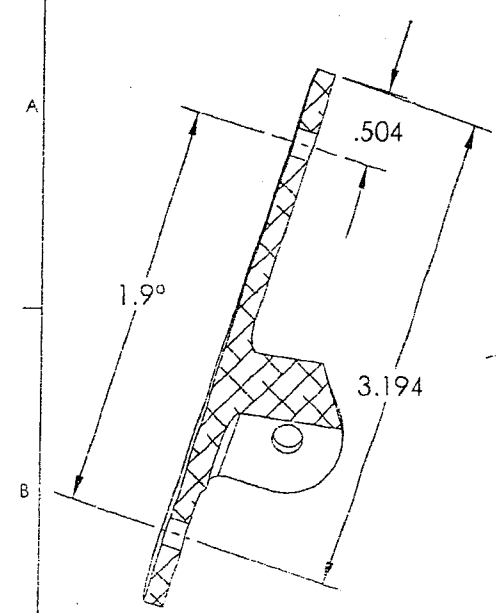
SECTION H-H

RECEIVED
MAR 23 1994

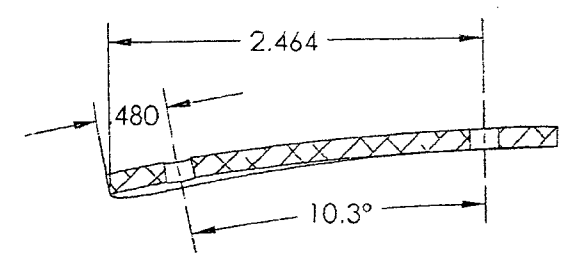
ORIGINAL DATE: 08-01-92		APICAL INDUSTRIES	
DRAWN BY: P. ROSANO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. ROSANO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL: P. ROSANO		BRACKETS	
CONTRACT NO.:		DWG NO. 647.9300	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		REV. P/C	
TOLERANCES ARE:		SCALE: NONE	
2 PLACE DECIMALS ±.01		SHEET 5 OF 9	
3 PLACE DECIMALS ±.005			
ANGLES ±.5°			

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

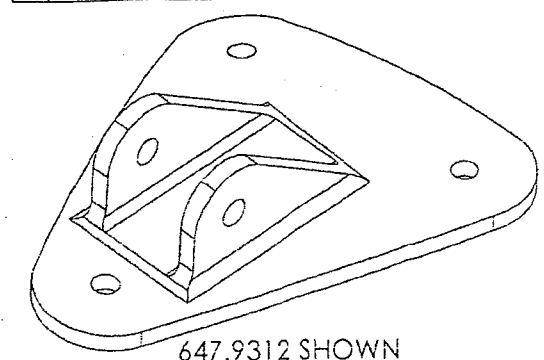
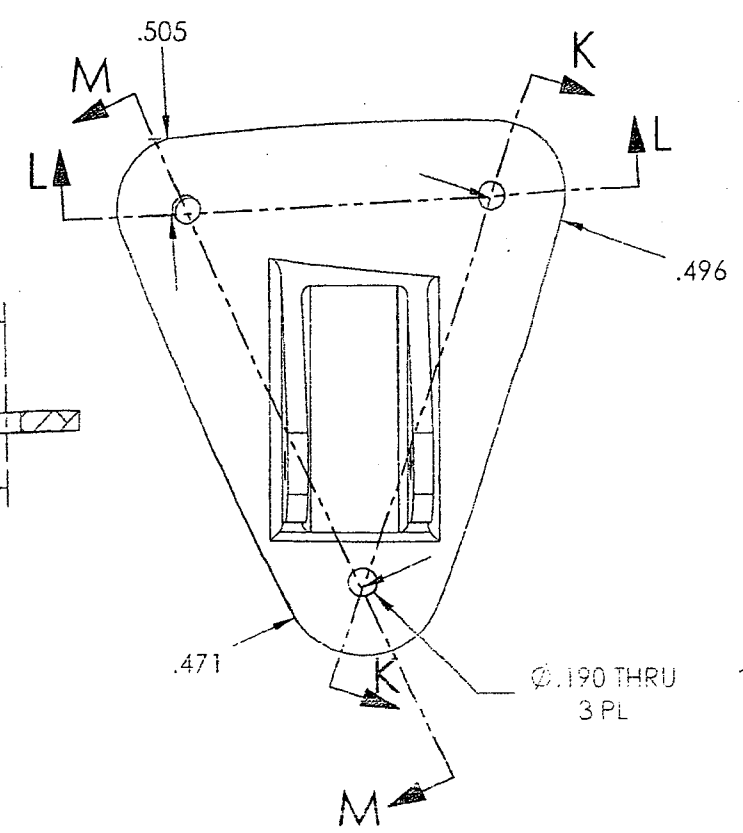
REV. NO.			
REV.	DESCRIPTION	DATE	APPROVED



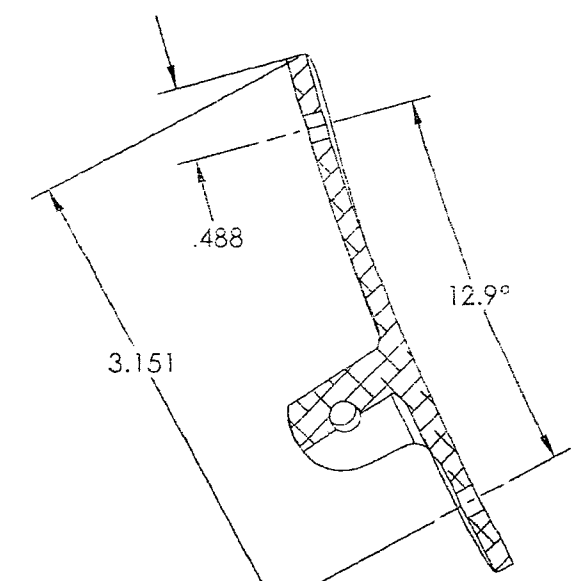
SECTION K-K



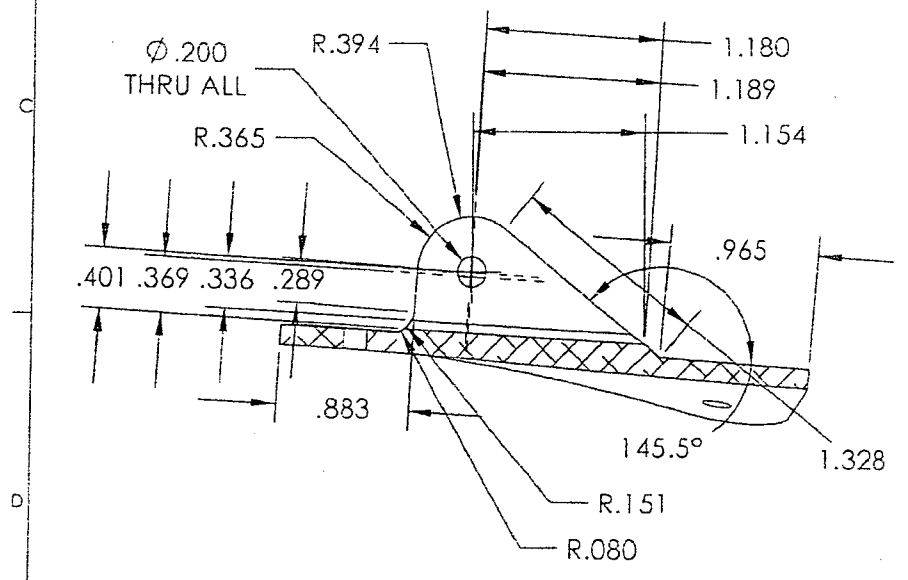
SECTION L-L



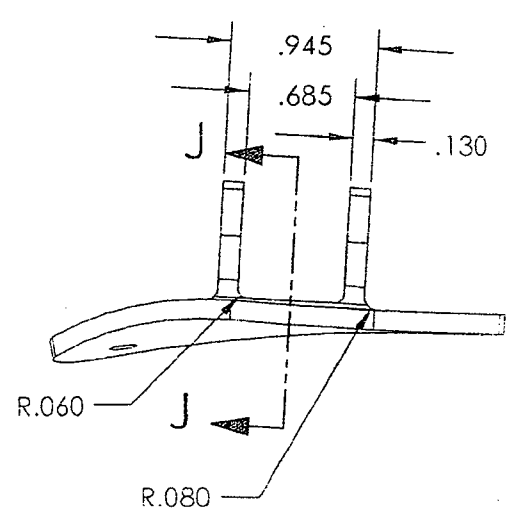
647.9312 SHOWN
647.9313 OPPOSITE



SECTION M-M



SECTION J-J

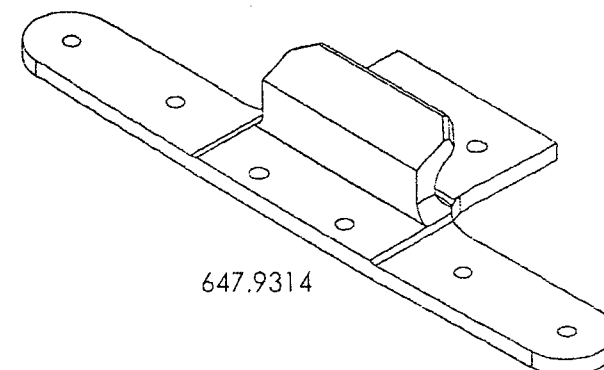


RECEIVED
MAR 5 1964

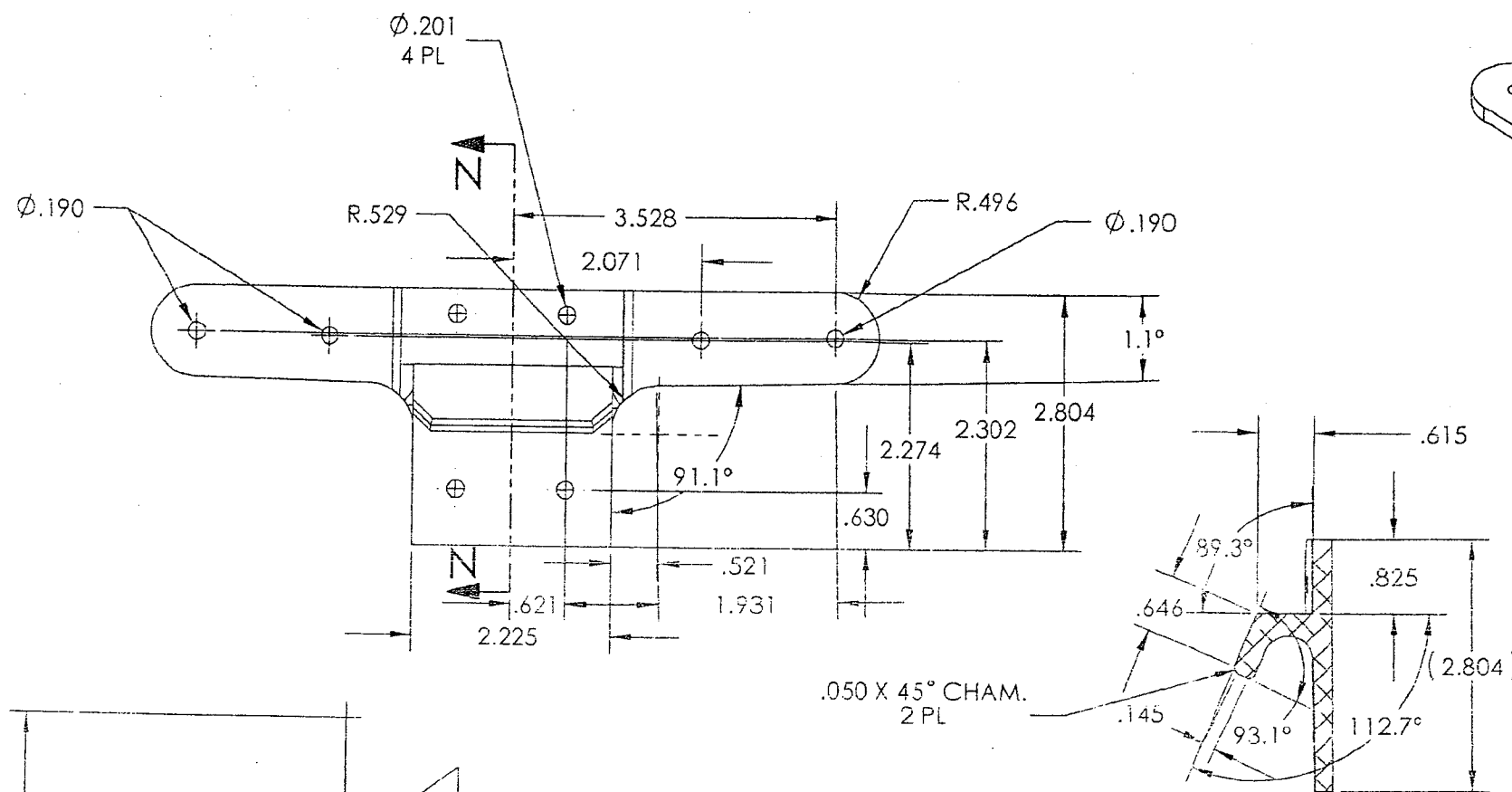
PARTS LIST			
APICAL INDUSTRIES			
2508 TEMPLE HEIGHTS DR.			
OCEANSIDE, CA. 92056-3512 (760)724-5300			
BRACKETS			
ORIGINAL DATE	DWG. NO.	REV.	
DRAWN BY	8 07M26	647.9300	N/C
DESIGNED BY	SCALE	NONE	SHEET 6 OF 9

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

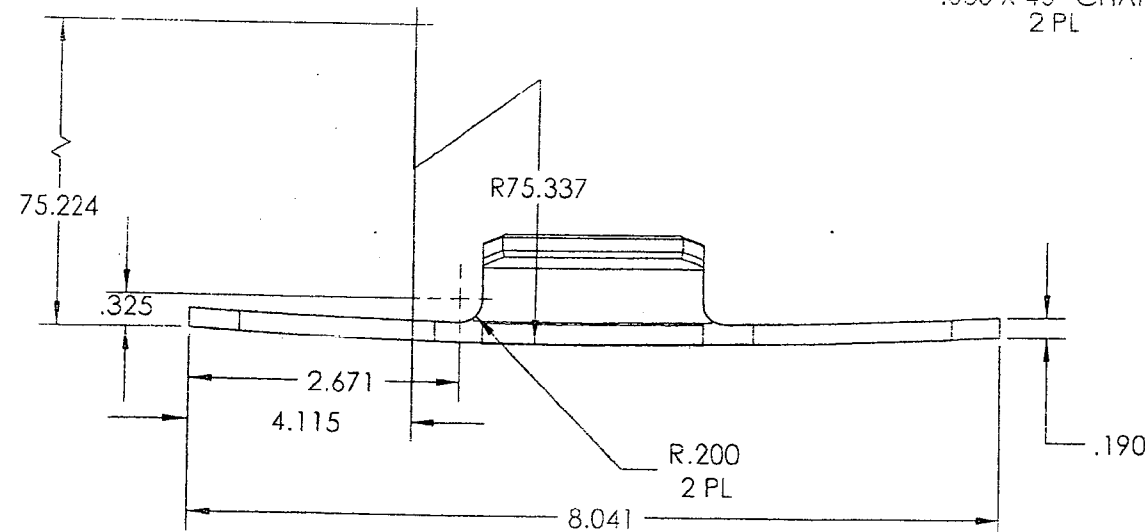
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



647.9314



SECTION N-N

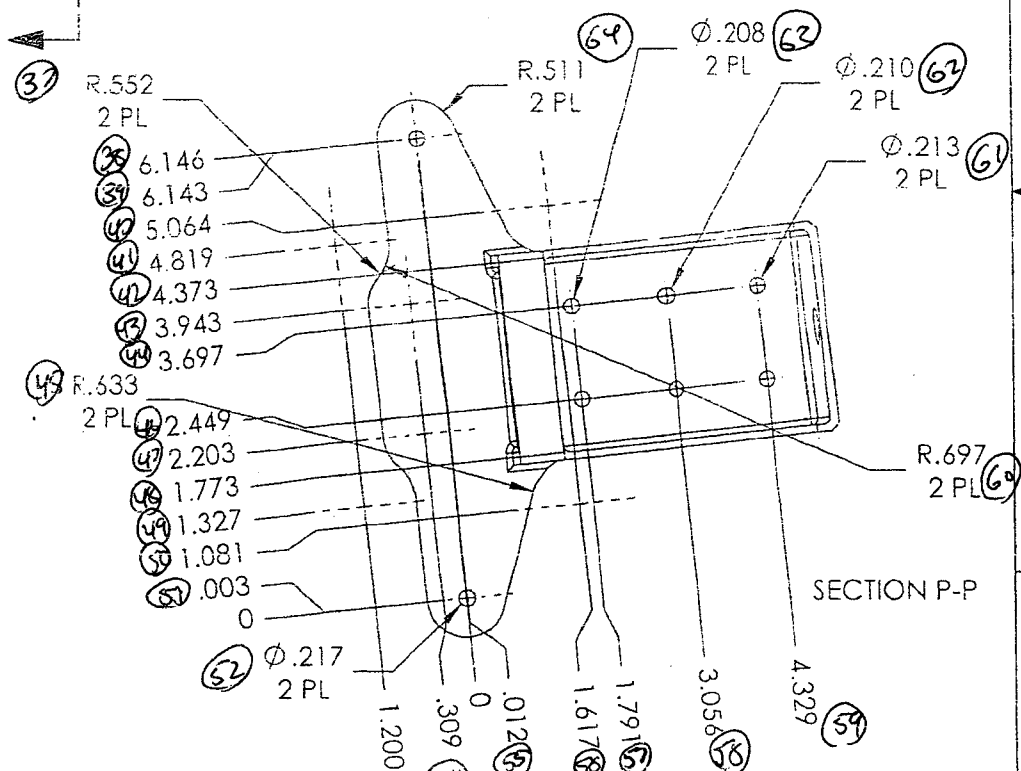
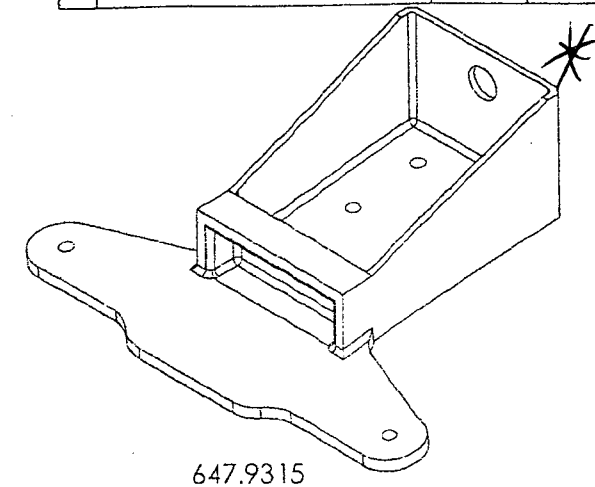
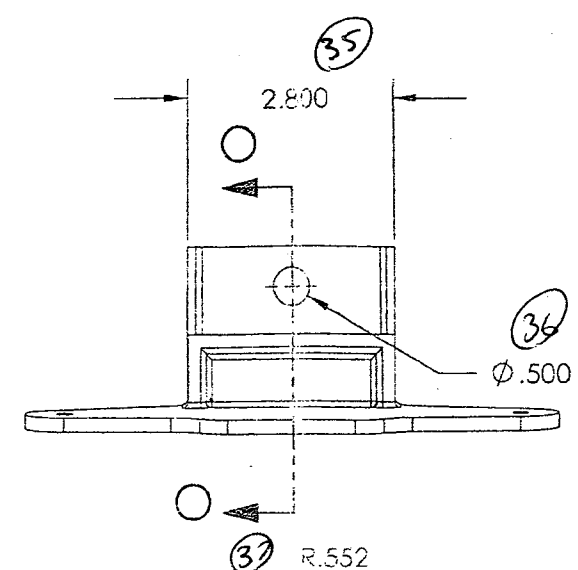
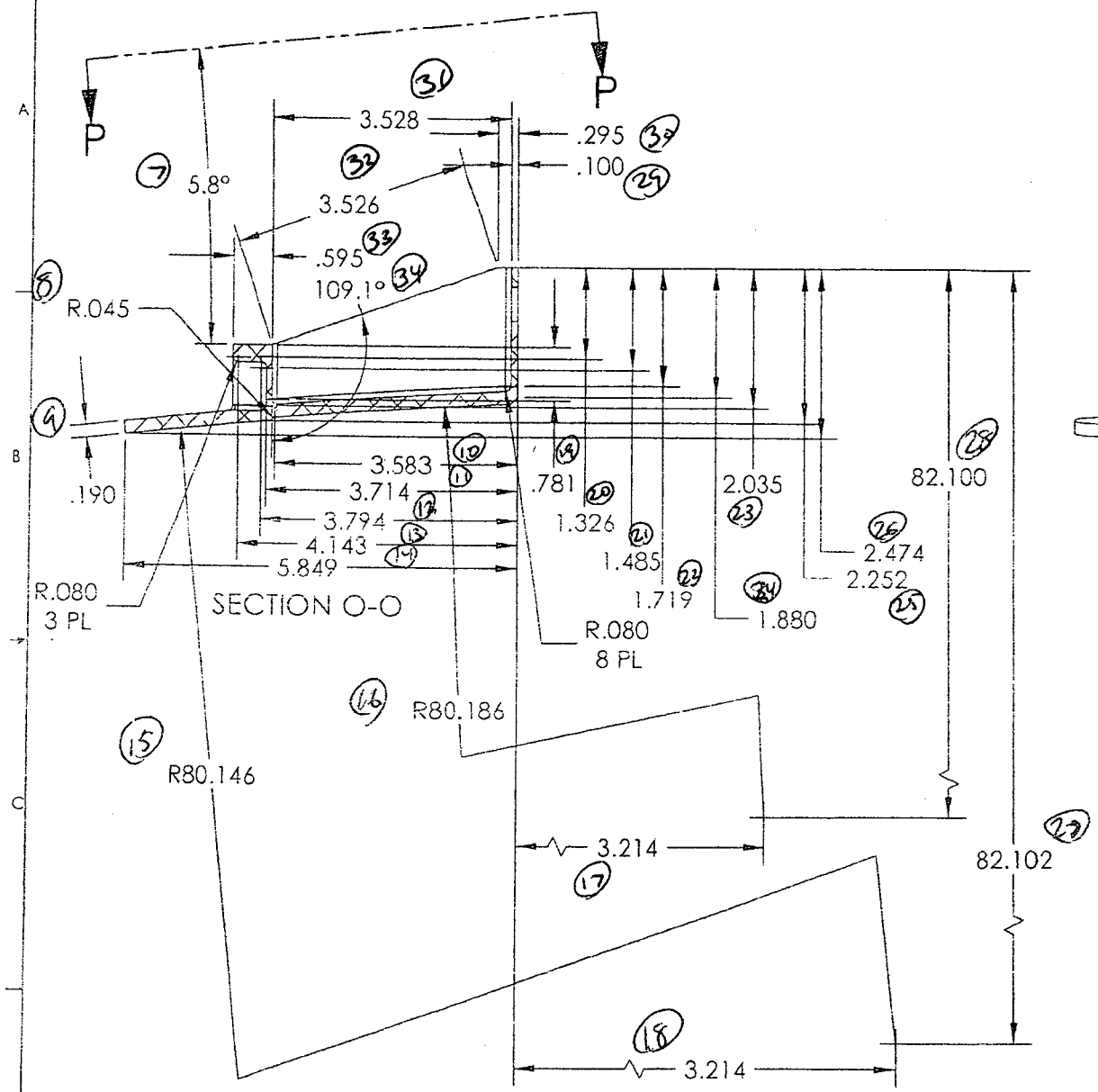


RECEIVED
MAR 5/14

ORIGINAL DATE REV. DATE 12/1/10		DESIGN ID 647.9300	
DRAWN BY R. ROSARIO		CHECKED BY P. BRAVO	
DRAWING APPROVAL P. BRAVO		CONTRACTING	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ± .03 2 PLACE DECIMALS ± .010 ANGLES ± .1°		SHEET 3	OF 9
APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		DWG. NO. 647.9300	REV. N/C
BRACKETS		SCALE NONE	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



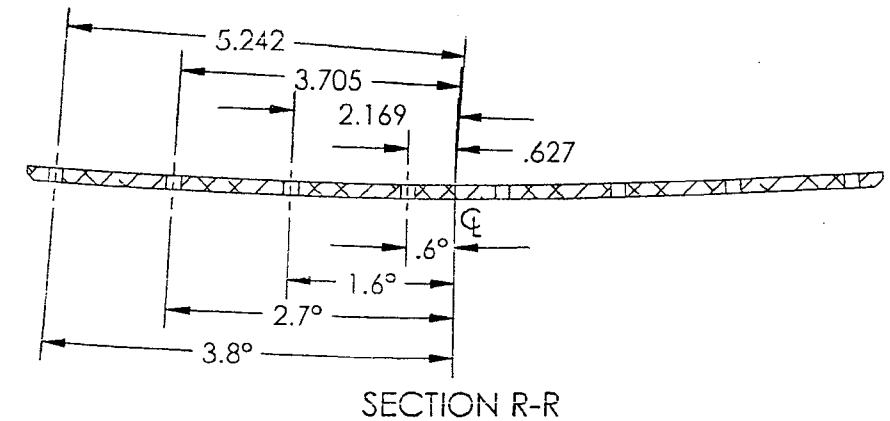
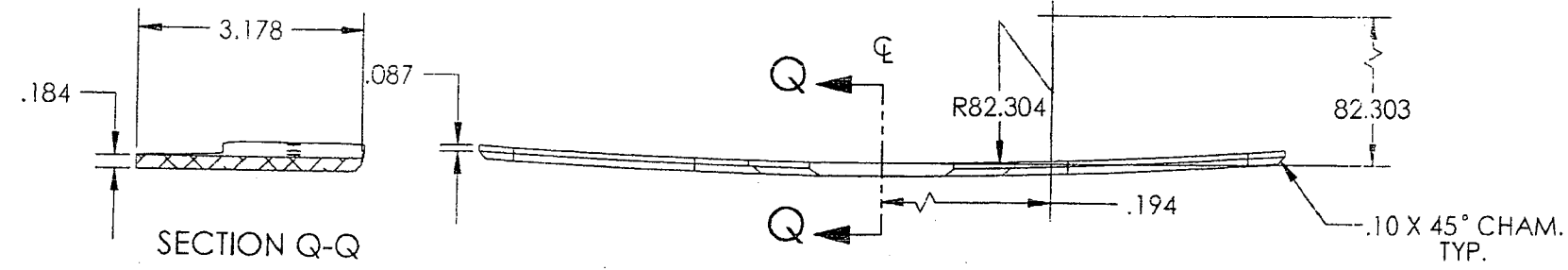
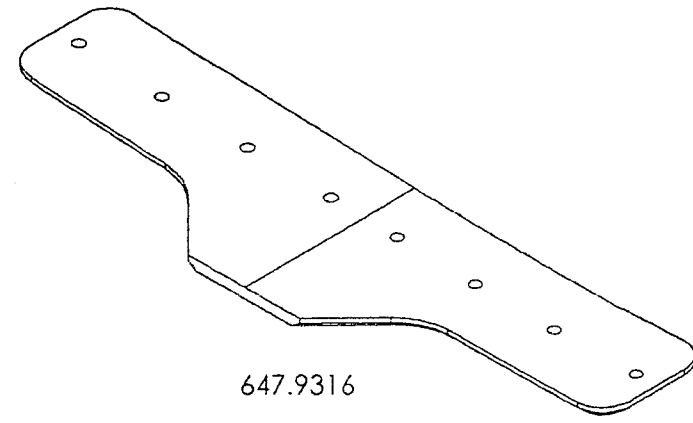
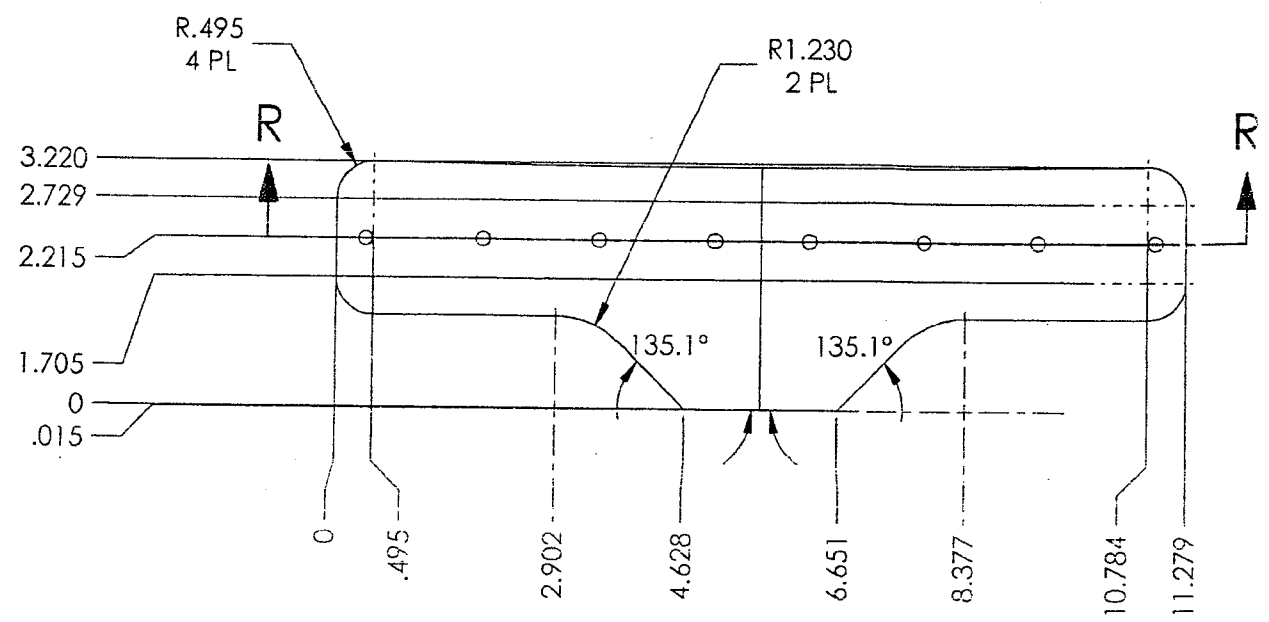
ORIGINAL DATE: 06-01-10		APICAL INDUSTRIES	
DRAWN BY: R. ROSANO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: F. BRAVO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL: P. BRAVO		BRACKETS	
CONTRACT NO.		647.9300	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		SCALE: NONE	
TOLERANCES ARE:		SHEET 8 OF 9	
2 PLACE DECIMALS: ±.03			
3 PLACE DECIMALS: ±.010			
ANGLE: ±.3°			

7-64

RECEIVED
MAR 5 1964

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



RECEIVED
MAR 5 1980

ORIGINAL DATE: 05-31-78		APICAL INDUSTRIES	
DRAWN BY: R. ROSANO	CHECKER: P. BRAVO	2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL: P. BRAVO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CONTRACT NO.		BRACKETS	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		REV. N/C	REV. N/C
TOLERANCES ARE:		SCALE: NONE	SHEET: 9 OF 9
2 PLACE DECIMALS ± .03			
3 PLACE DECIMALS ± .010			
ANGLES ± .5°			

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04249

SHEET 1 OF 1

DWG NO. 647.9300

REV: NC

PREPARED BY J. SOTO

DATE: 11/14/2013

EFFECT ON DWG

☐ INC.

☒ UNINC.

DWG TITLE: BRACKETS

APPROVED BY:

ENGR

MFG

QC

EFF.

NEXT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: REVISED NOTE 4

ECR:

13-037

SHEET 1, ZONE A1 IS:

RECEIVED
MAR 5 14

CONTROLLED
COPY

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.

* 2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK;
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.

3. DEBURR AND BREAK ALL SHARP EDGES.

4. IDENTIFY IAW MPP-120.

5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPRT, LAST MODIFIED 09-26-11.

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 11-16-12.

11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

DOCUMENTS EFFECTED:

☐ MDL

☐ INSTALL INSTRUCTIONS

☐ ICA

☐ FMS

☐ BOM

CHANGE CATEGORY

☐ MAJOR

☒ MINOR

DER REVIEW REQUIRED

☐ YES

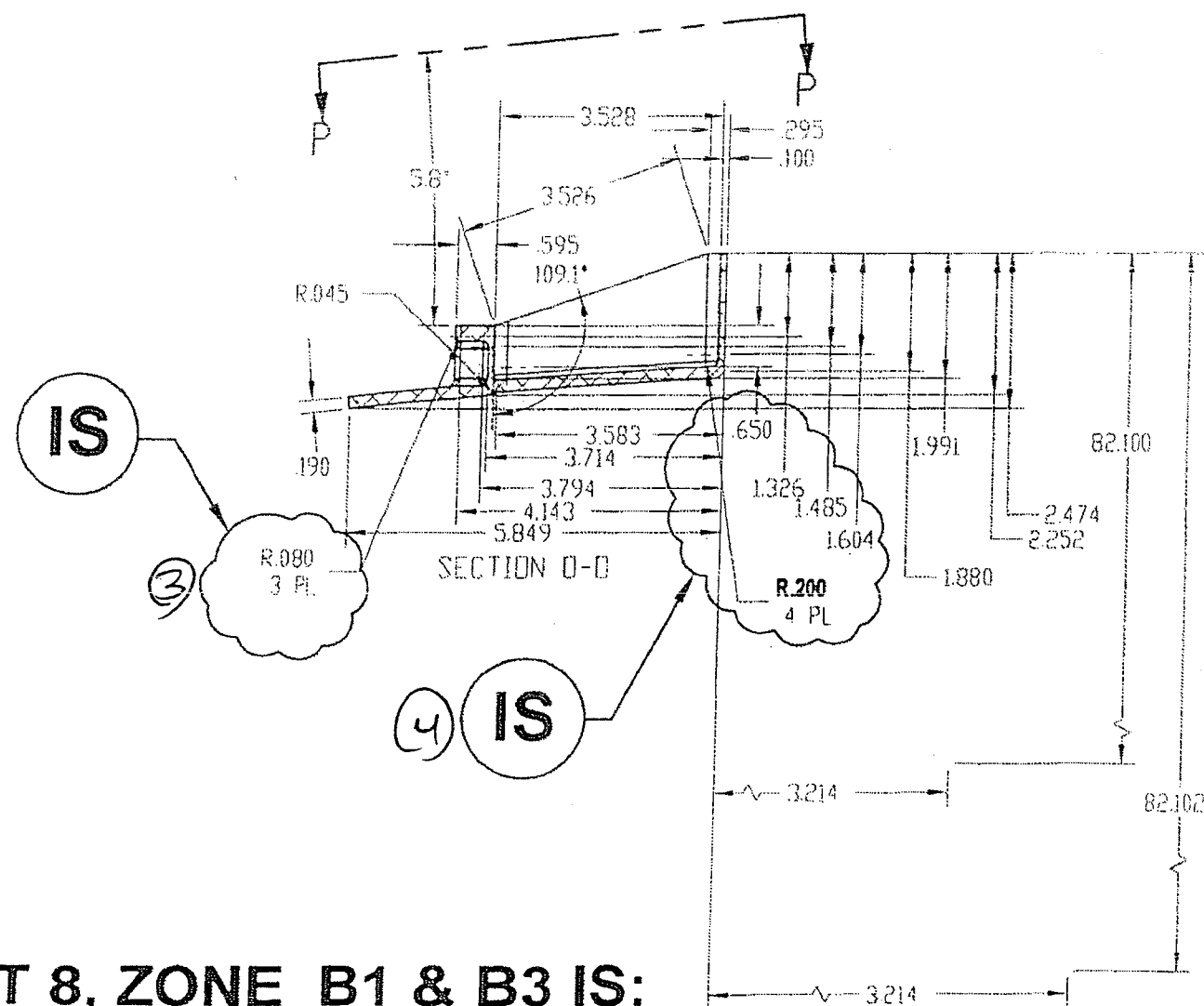
☒ NO

(2)

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03706				SHEET 1 OF 2	
	DWG NO. 647.9300	REV: N/C	PREPARED BY B. PETERS	DATE: 11/16/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED RADII ON 647.9315.			ECR: D-12-012	

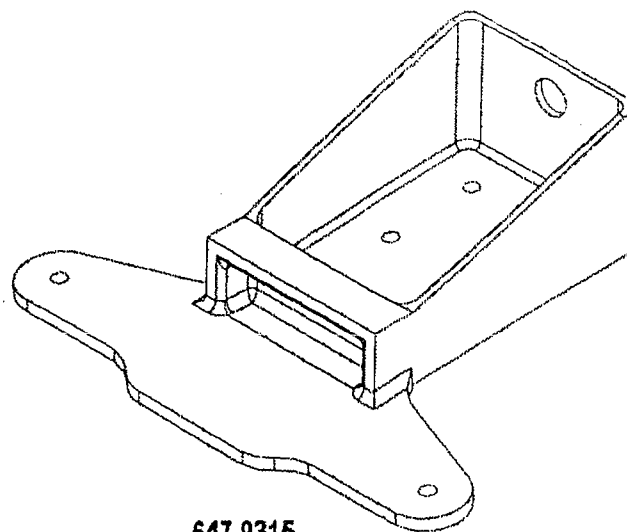
SHEET 1, ZONE B4, NOTE 10 IS:

10 PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 11-16-12.



RECEIVED
MAR 5/14

CONTROLLED
11/16/12

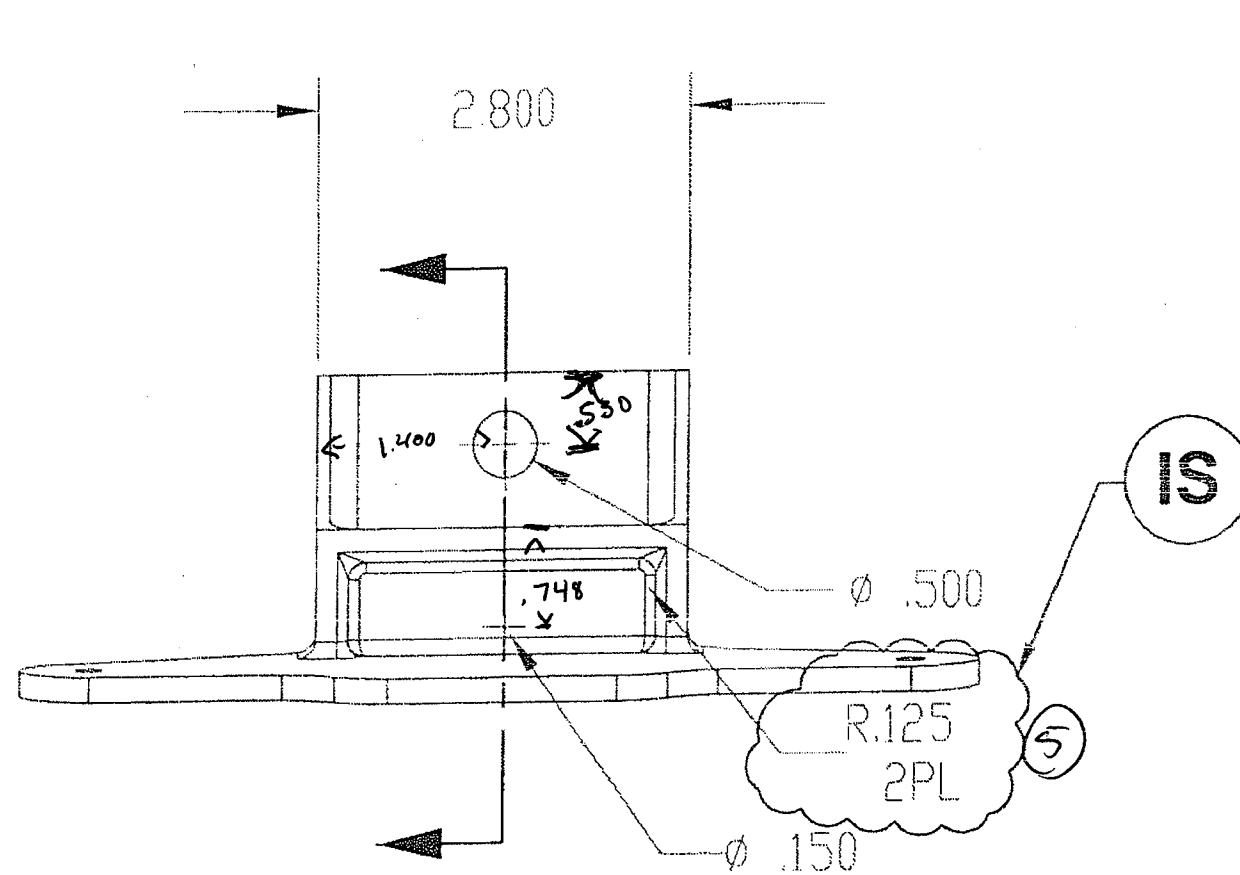
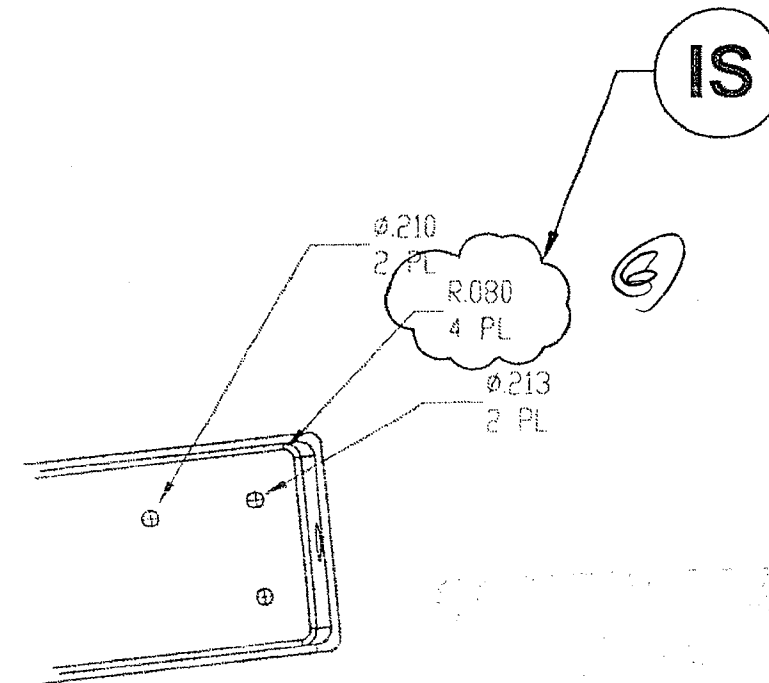


SHEET 8, ZONE B1 & B3 IS:

SHEET 8, ZONE A7 IS:

DOCUMENTS EFFECTED:	<input type="checkbox"/> RFMS <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
		<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

(34)

RECEIVED
MAR 5 1994SHEET 8, ZONE B6 IS:

SECTION P-P

SHEET 8, ZONE B8 IS:

5-6